Founded in 1929 by John Dewey and Carl Murchison

THE JOURNAL OF SOCIAL PSYCHOLOGY

FLOYD H. ALLPORT
Syracuse University
ERNEST BEAGLEHOLE
Victoria University College, New Zealand
S. BIESHEUVEL
National Institute for Personnel Research, Johannesburg
HAROLD E. BURTT
Ohio State University
DORWIN CARTWRIGHT
University of Michigan
RAYMOND B. CATTELL
University of Illinois
KAMLA CHOWDHRY
Ahmedabad Textile Indus. Res. Assoc., India
RICHARD S. CRUTCHFIELD
University of California
LEONARD W. DOOB
Yale University
A. H. EL-KOUSSY
Ein Shams University
OTTO KLINEBERG
University of Paris
I. D. MACCRONE
University of the Witwaterstrand
R. B. MACLEOD
Cornell University

If this space should be unstamped, this is the regular library edition. But if this space is stamped with a designating title, this is a special edition, sold under the restrictions of a bilateral contract, and may not be resold for a period of five years from date of publication.

EMILIO MIRA Y LOPEZ
Rio de Janeiro
GARDNER MURPHY
Menninger Foundation
O. A. OESER
University of Melbourne, Australia
A. T. POFFENBERGER
Columbia University
KALI PRASAD
India International Centre, New Delhi
E. TERRY PROTHRO
American University of Beirut, Lebanon
BERTRAND RUSSELL
Petersfield, England
KOJI SATO
Kyoto University
MARSHALL H. SEGALL
State University of Iowa
SADAJI TAKAGI
Tokyo University
GOODWIN WATSON
Columbia University
KIMBALL YOUNG
Northwestern University
PAUL THOMAS YOUNG
University of Illinois

VOLUME 64
1964

Copyright, 1964, by The Journal Press
Provincetown, Massachusetts, U. S. A.
All rights reserved

Published at 35B New St., Worcester, Mass.
Second-class postage paid at Worcester, Mass.

AUTHOR INDEX

Arkoff, Abe 225
Biddle, Ellen H. 263
Block, J. R. 157
Boyd, Robert D. 275
Carlson, Mary 333
Carlson, N. D. 241
Casler, Lawrence 307
Choo, Tong-He 65
Clifford, Clare 57
Cohn, Thomas S. 57
Cole, David L. 113
Duns, Donald F. 287
Gage, Robert W. 101
Gladstone, Roy 21
Goldfried, Marvin R. 137
Goldman, Morton 263
Goldstein, Rachel L. 169
Green, Helen Bagenstose 1
Grinder, Robert E. 217
Gunderson, E. K. Eric 325
Gupta, G. C. 21
Haiman, Franklyn S. 287
Havens, Joseph 77
Hetherington, E. Mavis 333
Hoffman, Edward G. 299
Hoffman, L. Richard 369
Iwahara, Shinkuro 225
Kievit, Mary Bach 355
Klausner, Samuel Z. 27
Knapp, Robert H. 89, 299
Lukoff, Irving F. 339
Maier, Norman R. F. 369
McMichael, Robert E. 217
Meredith, Gerald 225
Reitan, Harold T. 45
Sabath, Gerald 119
Shaw, Marvin E. 45
Shoham, Shlomo 185
Stricker, George 53
Stuart, Irving R. 147, 231
Warshay, Leon H. 263
Weatherley, Donald 161
Weinberger, Gerald 241
Wells, William D. 169
Whiteman, Martin 339
Williams, Charleta 113
Wilson, Warner R. 379
Wright, Jack M. 131
Yamamoto, Kaoru 249

TABLE OF CONTENTS

Socialization values in the Negro and East Indian subcultures of Trinidad . 1
By Helen Bagenstose Green

Dogmatism and the gulf hypothesis 21
By Roy Gladstone and G. C. Gupta

Sacred and profane meanings of blood and alcohol 27
By Samuel Z. Klausner

Group membership, sex-composition of the group, and conformity behavior . 45
By Harold T. Reitan and Marvin E. Shaw

The induction of shared threat: A methodological caution 53
By George Stricker

The relationship between leadership and personality attributes perceived by followers 57
By Clare Clifford and Thomas S. Cohn

Communicator credibility and communication discrepancy as determinants of opinion change 65
By Tong-He Choo

A study of religious conflict in college students 77
By Joseph Havens

Perceptual interpretation of the social diad: II. Character of relationship . 89
By Robert H. Knapp

Patriotism and military discipline as a function of degree of military training . 101
By Robert W. Gage

The influence of experimentally induced inadequacy feelings upon the appreciation of humor 113
By Charleta Williams and David L. Cole

The effect of disruption and individual status on person perception and group attraction 119
By Gerald Sabath

Unwillingness to attribute responsibility 131
By Jack M. Wright

A cross-validation of the Marlowe-Crowne Social Desirability Scale items . 137
By Marvin R. Goldfried

Iconography of group personality dynamics: Caricatures and cartoons . . 147
By Irving R. Stuart

Some observations regarding the use of projectives in social and industrial research 157
By J. R. Block

Some personality correlates of authoritarianism 161
By Donald Weatherley

Sears' study of projection: Replications and critique 169
By William D. Wells and Rachel L. Goldstein

BOOKS 181

BOOKS RECENTLY RECEIVED 181

Conflict situations and delinquent solutions 185
By Shlomo Shoham

Guilt and resistance to temptation in Japanese- and White-Americans . . 217
By Robert E. McMichael and Robert E. Grinder

Male-dominant and equalitarian attitudes in Japanese, Japanese-American, and Caucasian-American students 225
By Abe Arkoff, Gerald Meredith, and Shinkuro Iwahara

Primary and secondary process as reflections of catastrophe: The political cartoon as an instrument of group emotional dynamics 231
By Irving R. Stuart

Experimental group therapy in a senior high school 241
By N. D. Carlson and Gerald Weinberger

Creativity and sociometric choice among adolescents 249
By Kaoru Yamamoto

Knowledge, exposure, and personal characteristics 263
By Morton Goldman, Leon H. Warshay, and Ellen H. Biddle

Emotional control as a factor in productivity of small interaction groups . 275
By Robert D. Boyd

Validations in communicative behavior of attitude-scale measures of dogmatism 287
By Franklyn S. Haiman and Donald F. Duns

Vocational interest scores and patterns of aesthetic preference . . . 299
By Robert H. Knapp and Edward G. Hoffman

Some sociopsychological observations in a nudist camp: A preliminary study . 307
By Lawrence Casler

Personal and social characteristics of antarctic volunteers 325
By E. K. Eric Gunderson

Effects of candidate support and election results upon attitudes to the presidency 333
By E. Mavis Hetherington and Mary Carlson

A factorial study of sighted people's attitudes toward blindness . . . 339
By Martin Whiteman and Irving F. Lukoff

Social participation and some demographic variables 355
By Mary Bach Kievit

Financial incentives and group decision in motivating change 369
By Norman R. F. Maier and L. Richard Hoffman

Do parapsychologists really believe in ESP? 379
By Warner R. Wilson

BOOKS RECENTLY RECEIVED 391

$30.00 per year
$15.00 per volume
Single Numbers $7.50

BIMONTHLY
Three volumes per year

October, 1964
Volume 64, First Half

Founded in 1929 by John Dewey and Carl Murchison

THE JOURNAL OF SOCIAL PSYCHOLOGY

If this space should be unstamped, this is the regular library edition. But if this space is stamped with a designating title, this is a special edition, sold

under the restrictions of a bilateral contract, and may not be resold for a period of five years from the date of publication.

OCTOBER, 1964

(Manuscripts are printed in the order of final acceptance)

Socialization values in the Negro and East Indian subcultures of Trinidad . 1
By HELEN BAGENSTOSE GREEN

Dogmatism and the gulf hypothesis 21
By ROY GLADSTONE AND G. C. GUPTA

Sacred and profane meanings of blood and alcohol 27
By SAMUEL Z. KLAUSNER

Group membership, sex-composition of the group, and conformity behavior . 45
By HAROLD T. REITAN AND MARVIN E. SHAW

The induction of shared threat: A methodological caution 53
By GEORGE STRICKER

The relationship between leadership and personality attributes perceived by followers 57
By CLARE CLIFFORD AND THOMAS S. COHN

(OVER)

Copyright, 1964, by The Journal Press
Provincetown, Massachusetts, U. S. A.
All rights reserved

Published at 35B New St., Worcester, Mass.
Second-class postage paid at Worcester, Mass.

Communicator credibility and communication discrepancy as determinants of opinion change 65
By Tong-He Choo

A study of religious conflict in college students 77
By Joseph Havens

Perceptual interpretation of the social diad: II. Character of relationship . 89
By Robert H. Knapp

Patriotism and military discipline as a function of degree of military training . 101
By Robert W. Gage

The influence of experimentally induced inadequacy feelings upon the appreciation of humor 113
By Charleta Williams and David L. Cole

The effect of disruption and individual status on person perception and group attraction 119
By Gerald Sabath

Unwillingness to attribute responsibility 131
By Jack M. Wright

A cross-validation of the Marlowe-Crowne Social Desirability Scale items . 137
By Marvin R. Goldfried

Iconography of group personality dynamics: Caricatures and cartoons . . 147
By Irving R. Stuart

Some observations regarding the use of projectives in social and industrial research 157
By J. R. Block

Some personality correlates of authoritarianism 161
By Donald Weatherley

Sears' study of projection: Replications and critique 169
By William D. Wells and Rachel L. Goldstein

BOOKS 181

BOOKS RECENTLY RECEIVED 181

The Journal of Social Psychology, 1964, **64**, 1-20.

SOCIALIZATION VALUES IN THE NEGRO AND EAST INDIAN SUBCULTURES OF TRINIDAD*

Department of Psychology, University of Connecticut

HELEN BAGENSTOSE GREEN

A. INTRODUCTION

This is a cross-cultural comparison of socialization values held by Negro and East Indian mothers in Trinidad (Caribbean) as measured by an interview schedule on child-training intentions administered to maternity cases. Twenty-seven questions were so phrased as to elicit techniques of child-rearing, methods of reinforcement, preferences in problem-situation behavior, and choices of long-term goals. From the nature of the responses were deduced differences in the following three values held by Negro and East Indian mothers and presumably transmitted to their offspring: approval of extra-family involvement, autonomous independence of behavior, and direct (rather than delayed or indirect) expression of impulse.

Concurrently with the drawing of this material and related data, a study was made of the Negro and East Indian culture context in Trinidad. The writer agrees with Bascom and Herskovits (2) that in cross-cultural studies psychological-research findings should be checked for consistency with anthropological-type studies. This provides not only some validation of the results but increases the meaningfulness of conclusions for readers who are both outside the region and the culture. Therefore this article includes consideration of historical and contemporary factors, and information from various sources on each culture's behavior patterns.

Trinidad was chosen for three reasons. First, the island limits the number of cross-cultural variables involved because both the Negroes and the East Indians have been subject to much the same conditions of importation, White ownership, slave work on the plantations, tropical climate and economy, and rule for over a hundred years under the British colonial system. Secondly, the Negroes and East Indians constitute two major subcultures of nearly equal size, being respectively 40.1 per cent and 39.8 per cent of the total population of 800,000. Thirdly, these two groups still show sharp disparity in behavior

* Received in the Editorial Office on March 4, 1964, and given special consideration in accordance with our policy for cross-cultural research. Copyright, 1964, by The Journal Press.

patterns, each maintaining cultural cohesion and finding continued difficulty in effecting the usual blending or merging. The number of "douglas" (mixtures of Negro and East Indian) is very small and the rate is not increasing although all communities are officially integrated.

The search for underlying causes of this matched bicultural separatism makes a fascinating problem. Slavery would not seem to be at the root, because both groups were brought as labor pools and forced to work until Emancipation set the Negroes free and extremes of saving enabled East Indians to become free from indenture contracts after two to seven generations. Religion is a possibility, because the Negroes were forbidden their Moslem or pagan institutions upon arrival and soon became Christians, whereas the East Indians were guaranteed their religious right to continue as Hindus or Moslems and have to this day some consciousness of caste alignments. Negroes in Africa also had castes before their capture and sale, but the behavior entailed did not prevent give-and-take between castes as did the outgroup strictures of East Indians. It is probable that these age-old differences in religious and social patterns may originally have brought about the differences in family structure.

In both Negro and East Indian homes, the man is the household head and the new wife leaves her family to live under his roof. However, the typical woman's role in the home and in the community is very different for Negroes and for East Indians. The Negro woman has freedom for work and recreation which leave her scope for small enterprises, self-kept profits, and a range of community social exchanges. In the household she has the decision function about expenditures, organizing children's activities, and discipline. The East Indian woman is expected to be docile and subservient to her husband's authority, usually works only with him and under his direction, and is meticulously restricted and supervised in her social and community relationships. Such differences in the mothers' roles would suggest that Negro and East Indian women might have and transmit very different socialization values.

The primary object of this study has been to establish and explore the nature of differences in socialization values related to three broad behavioral areas: extra-family involvement, autonomous independence, and direct expression of impulse. Next, to strengthen the premise that culture-group uniformities in mothers' child-rearing values underly and form a major variable countributing to cultural continuity, parallels between socialization values and characteristic adult behavior have been drawn. While such parallels are not assumed to indicate a definitive link, consistency between mothers' socialization values and other adult-behavior patterns might suggest that the

women in each culture are principal agents for their children's role-practice, reward and punishment, and thus reinforce customary practices in each generation and reduce the probability of deviate behavior.

B. Current Status of Work in This Area

Whiting and Child (27), by correlations of socialization measures with adult forms of behavior in 75 cultures, concluded that excessive conformity to a certain pattern in childhood, imposed through child-training practices, leads to positive fixation evidenced in related adult personality attitudes as well as in related projective systems in the adult culture as a whole. Barry, Child, and Bacon (1) have shown that child-training is related to forms of subsistence economy. Maccoby (16) has demonstrated that mothers are the principal agents in the conscious and unconscious transfer of behavior patterns of independence to youngsters. Maccoby has concluded that this mechanism of learning depends upon breadth of role-taking identifications. Sears, Maccoby, and Levin (24) found that when warm indulgent maternal acceptance appeared in conjunction with threats of withdrawal of love, dependency occurred as well as evidences of conscience. Both the children who were rejected and the children who were trained for independence showed almost no evidence of high conscience. Sears (23) has explored the relationship between aggression of children and forms of maternal reinforcement (especially conditional love differentiated from object orientations) as leading to direct aggression or pro-social aggression by children of different age levels. Those children who were severely restricted when young were low in anti-social aggression at 12 years but high in pro-social aggression. His explanation rests on action learning theory. Cross-cultural research in these areas has yet to be applied, the only evidence available at the moment being anthropological and sociological studies wherein uniformities in child-training are observed to be congruent with aspects of the larger cultural pattern. Such overall observational material is found in the Jamaican research of Blake (3), Braithwaite (4), Clarke (6), Cumper (9) and Kerr (13). In Trinidad, the Herskovits and Herskovits (12) study of the town of Toco led them to the conclusion that African patterns of behavior and belief underlay much of the Negro child-training customs and social institutions. Also in Trinidad, the studies by Klass (15) and Niehoff and Niehoff (22) of East Indian towns showed pronounced resistance to changing of cultural uniformities imported from India. It appears that both the Negroes and the East Indians, in spite of similar conditions of importation and the plantation system, have maintained cultural patterns derived from their original locales. Smith (26) has related the in-

dependence behavior of Negroes in British Guiana to early child-training and economic pressures. Braithwaite (4) and Simey (25), as sociological observers of low-income Negroes in the Caribbean, have noted a relationship between family structure, child-training, and preference for nonrepressive channels of frustration reduction. Cross-cultural testing of these ideas has not so far been implemented.

C. The Research Design

1. *Hypotheses and Predictions*

Two sets of interview measurements on socialization were obtained, one from low-income Negro mothers and one from low-income East Indian mothers. The purpose was to get responses from these two groups leading to data which would establish, first of all, that the two groups differ in child-raising. The following three hypotheses were formulated with the intention of demonstrating that the Negro and the East Indian mothers differ in socialization values connected with these behavioral areas:

a. Hypothesis 1. Negro mothers would value *Extra-Family Involvement*

TABLE 1
Questions Grouped Under the Index of *Extra-Family Involvement*

Question number	Question
1	Mothers have different ways of handling a crying child of five months. Suppose that you were busy preparing the family dinner and the baby was cranky and crying—if you thought nothing was wrong with him (her), and he (she) only wanted attention, what would you do?
5c	What age would you first let your child run an errand to a store, if the road were safe?
6	If friends come in to see you and your 5-year-old doesn't behave—he bothers and distracts people while they are talking, so that you feel a little embarrassed—what would you do?
10	If you had a good friend at whose house you could leave your child sometimes while you went to the market, would you leave the child or take it with you?
14	What kind of a job would you like for your child when he (she) grows up?
16	Suppose a 14-year-old child were interested in some worthwhile activity that gave him (her) little time to spend with other children. The things the other children are doing are just as worthwhile, but they don't interest this particular child. Would you encourage him (her) in going on with his own interests, or would you rather see him (her) change to something he (she) can do with other children?
17a	If you happened to be watching from a distance and saw your child being teased and bullied by another child his own size, what would you want your child to do?
17b	Would you help him (her) prove to others that he (she) had not started the trouble?
19	Most little ones start out following others when they begin to play children's games. At what age would you expect your child to claim his turn in making the others follow him (her) sometimes?

TABLE 2
QUESTIONS GROUPED UNDER THE INDEX OF *Autonomous Independence*

Question number	Question
2	How long do you intend to breast-feed the baby—that is, when will you expect to have given it up entirely?
3	Will you use a schedule, so-many-hours-apart for feedings, or will you feed the baby when it seems hungry?
4a	When will you begin to train him (her) for bowel control?
4b	When will you begin to train him (her) not to wet himself (herself)?
5a	What age would you expect him (her) to pick up his (her) toys?
5b	What age would you expect him (her) to pick up his (her) own clothes?
5c	What age would you first let your child run an errand to a store, if the road were safe?
5d	When would you expect your child to dress completely?
8	If the child is 10 years old and does something very good, something unusually good, what would you do?
9	If the child is 10 and has been very bad and done something he knows is wrong, what would you do?
11	Do you think it makes a child strong-minded to be on his own as early as possible, learning to handle his problems by thinking them out for himself or is it better to have older people tell him what he should do?
12	What age would you stop supervising your child—that is, when can you relax and not have to know where he is and what he is doing most of the time?

TABLE 3
QUESTIONS GROUPED UNDER THE INDEX OF *Direct Expression*

Question number	Question
7a	Suppose a 4-year-old child does something which makes his mother angry and excited. Should the mother punish the child right then while she is angry, or should the mother wait until she is more calm before she decides what to do?
7b	Why?
13	Now suppose your grown-up child has a job, *which* is going to help him more to do well in that job: having good character traits or knowing how to do the work well? Which?
15	What do you consider a good age for young people to be old enough to be responsible parents; that is, old enough to make good decisions about how to bring up children?
17a	If you happened to be watching from a distance and saw your child being teased and bullied by another child his own size, what would you want your child to do?
18	Which would you rather see your child do: be the winner, all alone, of an exciting footrace at school, or share his honors as a member of a winning team?
19	Most little ones start out following the others when they begin to play children's games. At what age would you expect your child to claim his turn in making the others follow him (her) sometimes?
20	If you told your child to pick up this bag and put it in the other room and he didn't move to do it—didn't budge—would you punish him immediately or would you wait a little to see if he would do it in a few minutes?
21	Suppose your child was in the market without you and he saw another child his own age stealing something, what would you like to have your child do?

more than would East Indian mothers as shown by the following kinds of responses: (*a*) Priority given to other members of the family or to friends at a time when child wants attention. Questions 1 and 6 (see Table 1) are considered to indicate this. (*b*) Trust placed in nonrelatives. Questions 10 and 17b (see Table 1) are considered to indicate this. (*c*) Willingness for, or benefit from, interaction with nonrelatives. Questions 5c, 14, 16, 19 (see Table 1) are considered to indicate this.

b. Hypothesis 2. Negro mothers would value *Autonomous Independence* more than would East Indian mothers as shown by the following kinds of responses: (*a*) Emphasis on early self-care. Questions 2, 4a, 4b, 5a, 5b, 5d (see Table 2) are considered to indicate this. (*b*) Emphasis on early self-reliance. Questions 3, 5c, 11, 12 (see Table 2) are considered to indicate this. (*c*) Emphasis on autonomy by the use of rewards or punishments with object or activity orientation as contrasted with evidence of conditional love.

c. Hypothesis 3. Negro mothers would value *Direct Expression* more than would East Indian mothers as shown by the following kinds of responses: (*a*) Less emphasis on self-control. Questions 7a, 7b, 17a, 20 (see Table 3) are considered to indicate this. (*b*) Less emphasis on self-denial. Question 19 is considered to indicate this (see Table 3). (*c*) Less emphasis on good character traits and rectitude. Questions 13, 15 (see Table 3) are considered to indicate this. (*d*) Less emphasis on pro-social aggression. Questions 17a, 18, 21 (see Table 3) are considered to indicate this.

2. *The Interview Schedule*

The common measuring instrument for the two groups of mothers, Negro and East Indian, is an interview of 27 questions on socialization which combines original material with some items either taken verbatim or suggested by the Interview Schedule in Miller and Swanson. Questions 1, 2, 4a, 4b, 7a, 7b, 14, 16 were used verbatim (with permission) from the Interview Schedules appearing in Miller and Swanson (18).

The questions were grouped by judges into indexes according to the behavioral area to which each question referred. Response categories were also grouped by judges on a pro and con basis for scoring. Questions appear in Tables 1, 2 and 3.

3. *Subjects*

a. Size. The sample consists of 51 Negro mothers and 51 East Indian mothers.

b. Selection. Maternity subjects in the free wards of the Colonial Gen-

eral Hospital of Port-of-Spain were used, because the mothers would not have been selected by the interviewer but, rather, by their natural condition. Mothers were required to come to the hospital for their first delivery. Those in outlying regions with no means of transportation were conveyed in advance by social workers and, in emergencies, by hospital vans. The period of rest after hospital delivery is one during which mothers are free from household distractions, and presumably thoughful of child-rearing. The hospital ward provided a more uniform setting for interviews than crowded homes where listeners and commentators often cannot be excluded. On the third day after delivery, the interviewer was introduced by the supervising nurse who said, "Mrs. Green is a mother of three children herself and she is interested in getting your ideas on how you plan to bring up your child. She will ask you some simple questions, but she does not take your name and she will not let anyone here know what you say."

c. Low-income groups. Preliminary studies were made of interview responses from mothers in the *private* wards. These middle-class samples, although small, showed a consistency of responses regardless of Negro or East Indian culture affiliation, and were in contrast to the nature of responses given by subjects in the free wards. Local opinion also reinforced this impression that middle-income groups in Trinidad have become acculturated to standards which are not familiar to the poor. Therefore, only low-income subjects were used, because they would have had less change in their values as a result of White contact and White dependence patterns. Furthermore, low-income groups form the great mass of the Negro and East Indian population.

D. Procedure

1. The interview items were pregrouped by judges into three indexes: *Extra-Family Involvement, Autonomous Independence, Direct Expression.* Judges also divided the response categories on a pro and con basis.

TABLE 4
Differences Between Negro and East Indian Mothers on Indexes
($N = 51$ Negroes and 51 East Indians)

	t	p (two-tailed)
Negro mothers value Extra-Family Involvement more than do East Indian mothers	11.654	$< .001$
Negro mothers value Autonomous Independence more than do East Indian mothers	2.776	$< .01$
Negro mothers value Direct Expression more than do East Indian mothers	10.738	$< .001$

2. Three research assistants scored the interview sheets without knowing whether the mother was Negro or East Indian.

3. Each question on the interview was given a *t* test for significance of differences between Negro mothers and East Indian mothers.

4. Each mother had a cumulative score made of her responses to the questions grouped within each index. This consisted of adding all the pro answers and subtracting all the con answers within that index.

5. The cumulative scores were added for the sample of Negro mothers and for the sample of East Indian mothers. A *t* test of means was applied for significance of differences between the two samples (see Table 4).

E. Results

Tables 5, 6, and 7 give the differences in *t* test between the Negro and the East Indian mothers on the questions grouped under each index. (For full statement of question, refer by item number to corresponding index in Table 1, 2, or 3.)

Hypothesis 1 predicted that Negro mothers would value *Extra-Family Involvement* more than would East Indian mothers. This hypothesis is supported by an overall *t* test indicating that there are strong subcultural differences in the predicted direction. Examination of the *t*-test results for the individual questions shows that, out of eight questions on the index for *Extra-Family Involvement,* only three questions did not produce reliable findings in the anticipated direction, and one of these questions indicates a trend in this direction.

TABLE 5
DIFFERENCES BETWEEN NEGRO AND EAST INDIAN MOTHERS ON QUESTIONS GROUPED UNDER THE INDEX OF *Extra-Family Involvement*
($N = 51$ NEGROES AND 51 EAST INDIANS)

Question		Negroes	East Indians	*t*	*p* (two-tailed)
1	Let baby cry during dinner preparation	37	7	7.454	$< .001$
5c	Expect child to run errands by 5 years	35	30	.908	.40
6	Punish or exclude child embarrassing before guests	25	16	1.939	.02
10	Would leave child in charge of good woman	48	20	7.054	$< .001$
14	Chooses job with group employment	37	30	.982	.37
16	Better to change to work with others	34	6	6.866	$< .001$
17b	Let child explain bullying to onlookers	32	8	5.766	$< .001$
19	Demands game leadership by 8 years	37	23	2.932	$< .01$

Hypothesis 2 predicted that Negro mothers would value *Autonomous In-*

dependence more than would East Indian mothers. This hypothesis is supported by an overall *t* test of the index of *Autonomous Independence* showing subcultural differences in the predicted direction. Examination of the *t*-test results for the individual questions shows that, out of 12 questions on *Autonomous Independence,* four showed definite differences between Negroes and East Indians in accordance with the hypothesis, five showed trend differences in the anticipated direction, and three showed no subcultural differences.

TABLE 6
DIFFERENCES BETWEEN NEGRO AND EAST INDIAN MOTHERS ON QUESTIONS GROUPED UNDER THE INDEX OF *Autonomous Independence*
($N = 51$ NEGROES AND 51 EAST INDIANS)

Question		Negroes	East Indians	*t*	*p* (two-tailed)
2	Wean at or by 10 months	45	29	3.791	$< .001$
3	Scheduled feeding	39	24	3.268	$< .001$
4a	Bowel-train under 10 months	35	26	1.613	.13
4b	Bladder-train under 6 months	16	5	2.763	$< .01$
5a	Require pick up toys before 3 years	37	25	1.615	.12
5b	Require pick up clothes before 3 years	40	25	2.141	.04
5c	Require run errands before 5 years	35	30	.908	.40
5d	Require dress completely by 5 years	35	33	1.197	.25
8	Object or activity rewards (*vs.* conditional love)	24	17	1.348	.16
9	Physical punishment or activity deprivation (*vs.* love withdrawal)	40	32	1.764	.09
11	Child should be on own early	15	18	.707	.48
12	Stop supervision at or by 13 years	33	25	1.619	.12

TABLE 7
DIFFERENCES BETWEEN NEGRO AND EAST INDIAN MOTHERS ON QUESTIONS GROUPED UNDER THE INDEX OF *Direct Expression*
($N = 51$ NEGROES AND 51 EAST INDIANS)

Question		Negroes	East Indians	*t*	*p* (two-tailed)
7a	Angry mother punishes immediately	30	16	2.932	$< .01$
7b	Because mother or child forgets	17	14	.707	.48
13	"Know how" more important for job	43	16	6.277	$< .001$
15	Good parents could be under 24 years	33	25	1.619	.12
17a	If bullied fight	32	0	9.797	$< .001$
18	Prefer individual (*vs.* team) sports	41	5	9.965	$< .001$
19	Demands game leadership by 8 years	37	23	2.932	$< .01$
20	Mother would not wait for obedience	19	19	—	1.00
21	Ignore unknown child seen stealing	23	4	4.704	$< .001$

Hypothesis 3 predicted that Negro mothers would value *Direct Expression* more than would East Indian mothers. This hypothesis is supported by

an overall *t* test of the index of *Direct Expression* which shows strong subcultural differences in the direction predicted. The *t* tests of the nine individual questions under this index resulted in significant findings in the anticipated direction for five of the questions, a marginal or trend difference for one question, and no subcultural differences on three questions.

F. Discussion of Findings on Negro Socialization Values

1. *Negro Extra-Family Involvement*

The index of *Extra-Family Involvement* suggests that the Negro children are expected to learn that their mothers have a legitimate relation to other people, and that these concerns take priority over children's demands. Thus, children are trained to accommodate to a mother's other pressures, such as cooking, talking with guests, getting off alone to shop.

The children are taught that they, too, should relate to persons other than those within their family. They are persuaded to learn to work along with groups of their own age in preference to working alone. If they get into quarrels with playmates, they should speak up in their own behalf when asked to explain what happened. The implications are that Negro children learn that benefit may be expected from the company of others, and that they may depend on groups for fair treatment. Because of group support, a child need not be reluctant to claim and to try his turn at learning to take leadership in children's games. The findings for these questions suggest that Negro mothers convey to their children that it is important to know how to get along with a number of people.

Relation of data to Negro culture context. From an early age the Negro child learns to relate to many persons outside of his immediate family (20). The Negro home is weakened by fluctuations due to the freedom of Negro mothers for a variety of occupational and social activities which take their time from household routines (25, 26). Negro mothers carry most of the disciplinary responsibility in the family. In this capacity they emphasize, even for little children, the importance of cooperation and getting along pleasantly. Confidence in benefits derived from others is seen in the Negro tendency to arrange for the transfer of a child to other households better able to help him or to control him (20, 25). Boys and girls usually work and play together in mixed age groups, both within and outside of the home (4, 12).

The data from Trinidad showing that Negro mothers train their children for social trust and group belongingness is corroborated by commentators on other regions of the Negro-Caribbean culture who have uniformly empha-

sized the priority of wide social concerns among Negroes. In particular, Herskovits and Herskovits (12) found in their Trinidad study a pronounced tendency of Negroes to form and to belong to many and diverse social organizations. Negroes appeared to derive their status from one another, there being little emphasis on inheritance of wealth, position, or prescribed levels of society. Both men and women typically had many and varied roles outside of the home, and showed initiative in social interaction. They sought work and recreation where they could be together in large groups of mixed sex and ages. These same Negro social patterns have been noted by Smith (26) in his study of British Guiana, a closely related colony to Trinidad. Informed persons in Trinidad frequently brought to the writer's attention that the Negroes "run everything" and the East Indians "own everything." This is, of course, an exaggeration, but it is, nevertheless, true that Negroes are found in the great majority of executive jobs (both major and minor) in the hospitals, schools, legislature, civil service, the colonial Ministry organizations, and big business firms. The Negro subculture in Trinidad has organized an effective political machine. Negroes in Trinidad have supported and adopted the British institutions for centralized and democratic government.

Negroes appear to be efficient in the sense that they can work well together for a common purpose. In this sense, McClelland (17, p. 238) distinguishes the managerial personality type, who works efficiently with a group for group goals, from the entrepreneurial personality type who cooperates with others but for his own ends. Negro culture history in general indicates that this wide extent of social reference, and efficiency and pleasure in group participation based upon individual equality, has for a long time been a pervasive characteristic of Negroes.

2. *Negro Autonomous Independence*

Negro mothers appear to force their children away from dependence upon them. They wean the babies early and are definitely against demand feeding. Cleanliness training is begun early, as well as requirements that children be tidy with their belongings. Close supervision would be stopped before 13 years. Although the Negro mother does not appear to be "long-suffering" in the sense of enduring the nuisances of child-care any more than is necessary, she is, like the East Indian mother, concerned with important issues, such as the child's safety (in running errands) and helping with the child's problems and decisions.

Negro mothers are evenly divided between object or activity reward and reward by manifestations of praise and love. (The Negro mothers often pro-

vide group inclusion of the child as a prestigeful individual when he has been good, thus reinforcing the extent of his social relatedness.) Punishments by Negro mothers are definitely of the object-deprivation or bodily punishment kind. They emphasize the child's culpability as though he alone made the decision to be bad and he alone must pay for it by harsh punishment. The child's sense of autonomy would seem to be increased through these measures.

Relation of data to Negro culture context. Observers of Negro-Caribbean behavior agree that the adult Negroes demonstrate independence and initiative (7, 10, 11, 14, 26, 28).

Analysts of Negro family structure in the Caribbean also agree that Negro children are given or allowed to get much independence (3, 5, 6, 20, 25). Among these references, only the Mountbatten survey was specifically of Trinidad, but the findings are uniform with the other studies.

Headmaster Haines of Queens College, Trinidad (in a personal communication), emphasized that Negro lower-class scholarship students are equally ambitious and driven to achieve, when compared in this respect with East Indians, but, he added, "You never know which way Negroes will go, or what they will do next." This lack of predictability with Negroes is noted by Collens (7) and by Braithwaite (4), and very likely arises from the individual's training for autonomy.

Negro independence in the past has been indicated by the extremes with which they resisted and resented slavery. Upon Emancipation they moved out *en masse* from the plantations to subsistence living in the hills, thereby creating an economic crisis in Trinidad solved by pouring East Indians into the same plantation shacks and field work. Subsequently, the Negroes have demonstrated initiative and range in finding sources of income, and executive capacity in the large proportion of Negroes in managerial jobs in the oil fields and factories. As a subculture with upward mobility and willingness to marry with Whites and Chinese, the Negroes have contributed heavily to creating an acculturated middle class in Trinidad.

3. *Negro Direct Expression*

Among the questions indicating self-control and self-denial, the Negro mothers felt that their children need not postpone, when young, small roles of rotating leadership in games nor, when older, the role of parenthood until as late an age as East Indian mothers chose for these activities. Negro and East Indian mothers were not found to be culturally different in their impulse control of administering immediate or delayed punishments. Two questions—7a and 20—reinforce each other in this finding.

The question as to whether good character traits or "know-how" was more important for job success showed great emphasis by the East Indian mothers on having good character traits and even more emphasis by Negro mothers on the necessity of experience and knowledge about the job. This question indicates the importance of internalization for East Indians as opposed to the importance of realism for Negroes.

Lack of training for impulse control was shown by the Negro mothers' preference, in contrast to East Indians', that their child should, if bullied, fight back.

The question on choice of kinds of games for their children resulted in a large majority of Negro mothers choosing games of individual skill. A decisive number of East Indian mothers chose team sports. One interpretation which offers itself is that competition is an outlet for pro-social aggression whereby small groups may unite to prove superiority over others. East Indians are, for the most part, smaller and often more ectomorphic in build than the Negroes, so that East Indians may need to combine in order to win. Another possibility lies in East Indian children's home training in submissive restraint and acceptance of leadership, which should contribute to their small-group effectiveness and rule conformity.

The question about one child seeing another stealing in the market resulted in a much higher proportion of Negro mothers than East Indian preferring their child to ignore the incident and go on about his business. The absence of "blame" tendencies is notable here. Perhaps it also indicates self-centered autonomy in the sense of not being one's "brother's keeper" or it may be due to the practicality of keeping away from trouble and wrongdoing.

Relation of data to Negro culture context. Negroes are self-gratifiers in the sense of giving immediate and full expression to their emotions (4, 12, 14, 25). They show a range of reactions which appears to preclude fixed or principled control (4, 7, 26). Their greatest concern is not to be found wanting in acceptance and prestige before consensually validating groups but, within this restriction, personal expression finds many forms of outlet. Rejuvenation and buoyancy are effected through dancing, song, steel-band rhythms, and enjoyment of wit and social commentary. There is much extrapunitive and antisocial aggression, and, on a lower level, a tendency to expression and resolution of conflicts in the present.

Love relationships are an individual matter, occur premaritally, and these considerations frequently take priority over other responsibilities. A woman typically stays with a man only if sexually satisfied, supported by his wage-earning ability, and pleased by his goodness to the children. In difficulties she

reverts to her mother or her mother's relatives for help, or makes another alliance, taking the offspring with her.

Children's freedom and many social relations offer avenues to emotional expression with, however, emphasis on getting along pleasantly with adults and cooperation in all forms of group activity. In their high degree of group tolerance and their fear of group sanction, the Negroes have established a balance wheel to unjustified self-expression. Superintendent Blake of the Criminal Investigations Bureau in Trinidad said (personal communication) that "a Negro's crimes for the most part arise spontaneously from the need for prestige or recognition; i.e., to make a show of strength, or of not taking interference, or to prove how bad or how good he is."

There are frequent street incidents in which one Negro, in full fury, will berate another before a group of interested but dispassionate onlookers. When the enraged individual has had his or her say, and there are no telling rejoinders from the person who is being charged, everyone disperses as though this were a natural form of expression. The investigator is of the opinion that this impulse to immediate exposure of grievances prevents smoldering resentment and, by promoting settlement at the time, opens the way to the ongoing social action and bureaucratic efficiency characteristic of the Negroes in Trinidad.

G. Discussion of Findings on East Indian Socialization Values

1. *East Indian Extra-Family Involvement*

East Indian mothers, in comparison with Negro mothers, give more unselfish and indulgent care to their little children. They would drop dinner preparation or chatting with friends to give the child the attention he wants. It would seem that East Indian mothers feel their primary duty is to care for the child's happiness and well-being at the expense of other responsibilities and desires.

East Indian mothers show their children, indirectly, that other people may not be trusted to be good to them. The majority of East Indian mothers would not leave their little ones in the charge of outsiders, however responsible a good woman may appear to be. As a group they are very decided that they would prefer a child to pursue his interests alone rather than change to working side by side with other children. If a bullying situation arose, the East Indian mother would herself explain to others on behalf of her child rather than let the child justify his rights. It is not clear whether East Indian mothers, in this instance, are fearful of an unjust audience, or whether they

are more concerned with protection and mother-to-child loyalty. In any case, social distance and mistrust of outsiders are, for the East Indian mother, part of her teaching, directly or indirectly.

Relation of data to East Indian culture context. East Indians have a reserved social outlook with little interest in groups or individuals with whom they do not have a personal relationship (8, 15, 22). They shun the cities and move about in small villages where intimacy and decorum prevail, and the remnants of the caste system make for consciousness of dominance-submission orderings (15).

The family unit is very stable, with the children kept to their home confines and restricted from interaction with outsiders. East Indian children are seen mainly going to and from school, or accompanied by their parents, whereas Negro children are free and underfoot everywhere in the streets. Although parents are devoted and indulgent, there is strict training for children over 6 years in religious matters, in caste social behavior, and conformity to age and sex stratification. Even within the home, boys and girls receive separate treatment and role training (15). Children's social experience is limited, and subject to constant surveillance from elders and correction from members of other castes.

While there is great small-group intimacy and solidarity among East Indians (they say they are "a loving people"), there is very little large-group organization (15). They have belatedly formed a political party (having let the Negro party get firmly entrenched) characterized by fanatical support of East Indian regional candidates (15) but weak in unity of leadership and appeal to the Trinidad population at large.

The survival of castes among the Hindus makes for social hierarchy and fixed roles which proscribe deviation in behavior from accepted forms. (The Moslems, who constitute one quarter of the East Indian group, do not have castes but follow the other social patterns and attitudes of the Hindus (15), live in the same villages, and are considered one people with the Hindus not only by themselves but by the rest of the population.) Thus within the East Indian subculture, social interaction is restricted (*a*) by caste alignments, (*b*) by stratification according to sex and age, and (*c*) by dominance-submission relationships. Women have great security and cherishing protection but little status or freedom. They are kept segregated in social and religious gatherings, and confined to child-rearing and home routine except as they share work with their husbands. With the East Indian men, occupational preferences are for self-employment or for noncooperative undertakings, such as work in the cane or oil fields (15, 22).

There is little interest, understanding, or affiliation with the British-imposed and for the most part, Negro-run governmental and other organizations. In fact, the East Indians live apart with a certain degree of distrust for outgroups. This has contributed to their cohesion as a subculture but hindered their integration with other cultural groups.

2. *East Indian Autonomous Independence*

East Indian mothers in comparison with Negro mothers exert less pressure toward independence for their children, thereby making their own work harder. They nurse longer and more on demand, they train later for bladder and bowel control, they are more apt to pick up after their children, and they supervise children until well into the teen years. This indulgent care should delay development in the child of independent tendencies toward self-care and self-reliance, and reduce autonomous self-identity.

Two-thirds of the East Indian mothers used conditional love techniques for reward by praise and other verbal or physical demonstrations of their pleasure and approval. For punishment, they approached the object-activity suffering type used by the Negro mothers, although not by as great a majority. The responses showed a noticeable tendency on the part of East Indian mothers to reason and argue with a child "until he want to do right," and to blame and suffer over him rather than punish him for further wrongdoing.

Relation of data to East Indian culture context. The East Indian culture reduces independence by its necessary or voluntary acceptance of obligation and submission roles. Conformity is expected, with supervision and rule-enforcement on all sides. Caste membership limits job choices, upward social mobility, and level of aspiration. Marriages are arranged on the basis of caste, dowries, and family lineage, there being little intermarriage with Negroes, Whites, Chinese. East Indian life is ordered, regularized, and peaceful. Initiative is respected only when it leads to profits of a long-standing nature. This de-emphasis of new or unconventional activity has tended to keep the East Indians in agriculture, oil-field work, or small self-operated businesses, and has curtailed their expansion into other aspects of life in Trinidad. Strong tendencies to long-term self-deprivation for the purpose of accumulation of land and wealth has finally resulted, after generations of saving, in the appearance of a small but very wealthy East Indian middle class. This group maintains its solidarity with the East Indian subculture as a whole and remains apart from other middle-class elements in Trinidad, such as the British Whites, Syrians, Venezuelians, and educated Negroes (most of whom have admixtures of White blood).

Barry, Child, and Bacon (1) found that societies which were high in accumulation economy were also high in child-training for compliance. Klass (15) and Niehoff and Niehoff (22) refer to both of these aspects as characteristic of East Indians in Trinidad.

3. *East Indian Direct Expression*

The significant differences between the two subcultures on this index showed the East Indian mothers to value self-control and self-denial more than did the Negro mothers. The inference is that they feel restraint leads to better handling of stressful situations and aids in postponement of immediate impulses in favor of achieving responsibility and long-term objectives. A child challenged by a bully should not fight but deal with the situation in other ways. Team sports, where individual enterprise is curbed in favor of effective sportsmanship, are preferred. Ages for leadership and parenthood should be deferred until older. Good character traits are considered more important to job success than knowledgeability about the work.

Three questions suggest a tendency on the part of East Indian mothers to like pro-social aggression (aggression through socially approved channels, such as rule-enforcement and reporting of others for infringements of the code). Many East Indian mothers wanted their child to report the bully to them or others rather than get away. Similarly, one child noticing another thieving at the market should report the deed or accuse the other child directly rather than pass on.

Relation of data to East Indian culture context. Commentators agree that the East Indians, from the time of their first importation, have evidenced self-control and self-denial in their voluntary self-deprivation and work orientation in order to accumulate savings and to make land and business investments contributing to long-term material security (4, 7, 8, 14, 15, 21, 22).

Concerning East Indian emphasis on a strong sense of rectitude, there is corroboration from Cox (8), Klass (15), and Niehoff and Niehoff (22). The foregoing writers have found East Indians preoccupied with sustaining conformity to proper caste behavior. They give much thought to the benefits to be reaped upon a better reincarnation if justified by their character strength, acceptance, and exemplary behavior in the present.

The work done in Trinidad by Mischel (19) showed greater preference by East Indian, in comparison with Negro, secondary-school children for delayed reinforcement; i.e., reward by a later-but-larger candy bar rather than

immediate acceptance of a small candy bar upon the completion of a test period.

Barry, Child, and Bacon (1) found that societies that were high in accumulation economy were also high in socialization for compliance and responsibility. Austerity and frugality in living are characteristic of East Indians. Enjoyment of time and profits through relaxation and self-indulgence are unrecognized as values because time and profits are typically expended on routines leading to extended school education, minute savings, house improvements, crop-raising, and animal husbandry. There is much disdain on the part of Negroes for East Indian extremes of work-orientation, penuriousness, and use of child labor. The East Indians disdain the Negroes for self-indulgence—especially in prestige or recreational spending followed by periods of financial embarrassment and loans—and for selling their land and for the freedom of their women.

Superintendent Blake of the Criminal Investigations Bureau in Trinidad told the writer that the East Indian is a premeditated lawbreaker in the sense that his crimes are those of revenge and envy with definite intent to maim or kill a resented individual. To this end the East Indian ". . . uses cruel chopping or lethal weapons, shoots from behind, and disregards onlookers." It is his experience that many East Indian crimes are preceded by a period of depression which may have led in some cases to suicide in the ratio of more than two to one of East Indians over Negroes (figures from records of the last 10 years).

Information obtained at St. Anne's Mental Hostipal showed three times as many East Indians as Negroes are committed for alcoholism. It is argued that, on an island where rum is made, cheaply sold everywhere, and freely consumed by most of the adult population, it is noteworthy that many more East Indians than Negroes have been committed for excessive use of rum as a form of withdrawal from reality.

Roland Persad, a Hindu headmaster who is in charge of supervising schools in southern Trinidad where many East Indians live, was asked by the investigator (in 1962) what East Indians tend to do when their lives become intolerable. His answer was, "They escape into either religion or alcoholism."

In summary, it may be said that, while the East Indian way of life emphasizes tranquility and order, it necessitates much greater internalization to achieve individual restraint and low emotional reactivity. The expectation is that this type of frustration of impulsivity would produce more pro-social aggression, intrapunitive tendencies, and a greater number of violent breakthroughs than would be characteristic of Negroes. The larger incidence of

East Indian suicides, alcoholism, and vengeful or explosive crimes attests this.

H. Conclusion

Socialization values as elicited from low-income mothers were compared for the two major subcultures of Trinidad, Negro and East Indian. These findings were related to each culture's general pattern of behavior, its adpatation to historical factors of economy, employment, and control, and its orientation at present to conditions in Trinidad.

Three hypotheses were formulated, the interview questions grouped into indexes, and predictions made with regard to the differences in socialization values between the subcultures. The findings supported the hypotheses as indicated:

1. Negro mothers were found to value *Extra-Family Involvement* more than did East Indian mothers. This index includes measures of behavior indicating willingness for, or benefit from, interaction with groups, trust placed in nonrelatives, and priority given to others at a time when the child wants attention.

2. Negro mothers were found to value *Autonomous Independence* more than did East Indian mothers. This index includes measures of behavior indicating emphasis on early self-care, early self-reliance, and object or activity reward and punishment as contrasted with conditional love.

3. Negro mothers were found to value *Direct Expression* more than did East Indian mothers. This index includes measures of behavior indicating preference for immediate settlement of grievances, emphasis on knowledge rather than good character traits, earlier leadership and parenthood roles, and little use of pro-social aggression.

The findings of this study provide strong support for the proposition that socialization is one of the major mechanisms through which cultural values are being maintained in these two cultures and is an important determinant of the continuance of their cultural disparity.

References

1. Barry, H., Child, I., & Bacon, M. Relation of child training to subsistence economy. *Amer. Anthropologist,* 1959, **61** (1), 51-63.
2. Bascom, W. R., & Herskovits, M. J. Continuity and Change in African Cultures. Chicago: Univ. Chicago Press, 1959.
3. Blake, J. Family Structure in Jamaica. New York: Crowell-Collier, 1961.
4. Braithwaite, L. Sociology and demographic research in the British Caribbean. *Soc. & Econ. Stud.,* 1953, **2**, 5-175.
5. Campbell, A. A. St. Thomas Negroes: A study of personality and culture. *Psychol. Monog.,* 1943, **55** (5), 44-50.

6. CLARKE, E. My Mother Who Fathered Me. London: Allen & Unwin, 1957.
7. COLLENS, J. H. Guide to Trinidad. Port-of-Spain, Trinidad: Government Printing Office, 1886.
8. COX, O. C. Caste, Class, and Race. New York: Monthly Review, 1959.
9. CUMPER, G. E. The Jamaican family: Village and estate. *Soc. & Econ. Stud.*, 1958, **7**, 76-108.
10. GAMBLE, W. H. Trinidad: Historical and Descriptive. London: Yates & Alexander, 1866.
11. HERSKOVITS, M. J. The Myth of the Negro Past. New York: Harper, 1941.
12. HERSKOVITS, M. J., & HERSKOVITS, F. Trinidad Village. New York: Knopf, 1947.
13. KERR, M. Personality and Conflict in Jamaica. London: Eyre & Spotteswoode, 1953.
14. KINGSLEY, C. At Last. New York: Harper, 1871.
15. KLASS, M. East Indians in Trinidad: A Study of Cultural Persistence. New York: Columbia Univ. Press, 1961.
16. MACCOBY, E. E. The taking of adult roles in middle childhood. *J. Abn. & Soc. Psychol.*, 1961, **63** (3), 493-503.
17. MCCLELLAND, D. C. The Achieving Society. New York: Van Nostrand, 1961.
18. MILLER, D. R., & SWANSON, G. E. The Changing American Parent: A Study in the Detroit Area. New York: Wiley, 1958.
19. MISCHEL, W. Father absence and delay of gratification: Cross-cultural comparisons. *J. Abn. & Soc. Psychol.*, 1961, **63**, 116-124.
20. MOUNTBATTEN, M. Children of Trinidad and Tobago. Port-of-Spain, Trinidad: Guardian Commercial Printery, 1960.
21. NATH, D. A History of Indians in British Guiana. London: Thomas Nelson, 1950.
22. NIEHOFF, A., & NIEHOFF, J. East Indians in the West Indies. Publication No. 6, Milwaukee Public Museum Publications in Anthropology, Milwaukee, Wisconsin, 1960.
23. SEARS, R. R. Relation of early socialization experiences to aggression in middle childhood. *J. Abn. & Soc. Psychol.*, 1961, **63** (3), 466-492.
24. SEARS, R. R., MACCOBY, E. E., & LEVIN, H. Patterns of Child Rearing. New York: Row Peterson, 1957.
25. SIMEY, T. S. Welfare and Planning in the West Indies. Oxford: Clarendon, 1946.
26. SMITH, R. T. The Negro Family in British Guiana. London: Routledge & Kegan Paul, 1956.
27. WHITING, J. W. M., & CHILD, I. L. Child Training and Personality. New Haven: Yale Univ. Press, 1953.
28. WILLIAMS, E. The Negro in the Caribbean. Washington, D. C.: Associates of Negro Folk Education, 1942.

Department of Psychology
University of Connecticut
Storrs, Connecticut

The Journal of Social Psychology, 1964, **64**, 21-26.

DOGMATISM AND THE GULF HYPOTHESIS*

Oklahoma State University and Delhi University[1]

ROY GLADSTONE AND G. C. GUPTA

A. THE PROBLEM

A consideration of Adorno *et al.* (1) indicates that the ethnocentric and the authoritarian, as defined by the E and F Scales, tend to attribute what they consider to be desirable attitudes and behaviors to the ingroup and undesirable attitudes and behaviors to the various outgroups. Rokeach (4) found that people judged different religions to be different, one from the other, and he assumed that the judged differences were a function of the belief-disbelief system of the person doing the judging. He found also that *S*s scoring high on the D (Dogmatism or generalized authoritarian) Scale judged the differences to be greater than did the low scorers (nondogmatists). The assumption that the latter, experimentally determined result is valid is built into the D Scale. In addition, the assumption is made and built into Form D of the D Scale that the dogmatist will not differentiate as much among disbelief systems (systems he holds not to be true) as does the nondogmatist; i.e., the dogmatist will cluster the disbelief systems more than the nondogmatist.

Given these concepts the following hypothesis seems tenable: the dogmatist of any country will believe that a greater percentage of the people in his country act in a "good" fashion than do people in other countries, and the gulf (defined precisely below) between *S*'s own country and other countries will seem greater to the dogmatist than to the nondogmatist. This study is designed to test that hypothesis.

B. PROCEDURE

During the 1962-1963 school year, *S*s in India and the United States were asked to do three things: (*a*) to fill out the Rokeach D Scale, Form E; (*b*) write five things a good person would be most likely to do in a typical week

* Received in the Editorial Office on March 24, 1964, and given special consideration in accordance with our policy for cross-cultural research. Copyright, 1964, by The Journal Press.

[1] Miss Nadya Nevruz gathered much of the U.S. data and carried out many of the calculations on those data. The Research Foundation of the Oklahoma State University helped with many phases of the study and furnished the publication costs. The study would have been much more difficult to carry out without that aid.

as a result of being good and five things a good person would *not* do as a result of being good;[2] and (*c*) to answer the question, "Approximately what percentage of the general population would you guess would act as you have described (as a good person acts or refrains from acting) in the United States, India, England, Russia, and China?"

Two populations were used, one from the southwest United States and one from India. The U.S. population consisted of 102 students in the Introductory Psychology course at the Oklahoma State University. Their origins were Oklahoma and the surrounding states, the data of a few students from other states being discarded along with data which were incomplete. The Indian population consisted of 119 students at the University of Delhi, 91 being undergraduates and 28 being graduates. The bulk of the students came from the Punjab, Delhi, West Bengal, and Uttar Pradesh, with a few students native to various other states.

Because the D Scale is quite heterogeneous, it was thought that the gulf data might relate in different ways to different portions of the D Scale. On a purely subjective basis, Form E of the D Scale was divided into three parts: (*a*) a personality subscale consisting of questions which revolve around evaluation of the self (questions 11, 12, 28, 29, and 31 through 36 inclusive); (*b*) a "gulf" subscale composed of questions which point up differences—differences between *S* and others, between *S*'s group and other groups, and between *S*'s accepted authorities and other authorities (questions 1-3, 7-10, 13, 15, 17-19, 21, 22, 24, 27, 30, and 37-40); and (*c*) a rejection subscale composed of questions which derogate or imply rejection of ideas or people (questions 4-6, 14, 16, 20, 23, 25, and 26). Separate scores were derived for each of the subscales and the total scale using a six-point answer scale for each of the questions—three points for degrees of agreement and three for degrees of disagreement. A high score indicated high agreement with the item and therefore a high dogmatic score. The answer scale was scored from zero to 5. No neutral answer was provided, but a mean score of 2.5 is neutral.

It was planned that the evaluation-of-countries data would be handled as follows: (*a*) Subtract from the percentage assigned to the person's own country the percentage assigned to the next highest country. This was called the "gap." (*b*) Divide the resulting figure by the range of percentages. (*c*) Use the resulting figure as an indication of the "gulf" which *S* perceived between his own group and other groups.

The gap was divided by the range in order to compensate for the tendency

[2] This technique of getting a behavioral definition of concepts was apparently first described by Bavelas (2).

of *S* to think broadly or narrowly and to take into account the Rokeach hypothesis that the dogmatist would differentiate less among disbelief systems than would the nondogmatist. This had the effect of yielding a larger gulf for a person who had a small difference between his own country and the next highest country but grouped the foreign countries closely than for a person who was liberal with his percentage differences but who perceived significant differences among the outgroups—i.e., who strung the other countries out along a more or less continuous scale.

The average item-score was calculated for each of the scales and used throughout. Averages were calculated in order to compare scores on the various subscales which were composed of different numbers of items.

C. Data and Analysis

The data revealed a fact which had not been taken into consideration in planning the study: many *S*s rated other countries higher than their own and many others rated other countries as high as their own. As a result it was decided to break the U.S. gulf data into three groups in order to see whether there were systematic differences between the groups which might be of significance for the study. The groups were plus gulfs (those who rated their own country above all other countries), zero gulfs (those who rated another country equal to their own but none above their own), and minus gulfs. Data in which the range was zero were discarded because the gulf was then zero divided by zero, an indeterminate figure.[3]

TABLE 1
Correlations of D Scale Score with Various Gulf Scores

Type of gulf	U.S.		India	
	r	*N*	*r*	*N*
Combined	—.015	102	—.036	119
Positive	.003	33		
Negative	.039	34		
Zero	.000*	35		
Zero plus Positive	—.026	68		

* Uniquely determined by the zero gulf.

The correlation of the score on the total D Scale with each of these gulf groups separately, the combined zero-and-plus gulf groups, and all three groups together were then calculated for the U.S. population. These *r*'s appear in Table 1. Also appearing in Table 1 is the *r* between gulf and the total D Scale for the Indian data.

[3] These data are suspect anyhow because it is easier to assign the same percentage to all countries than to differentiate among them.

Table 1 indicates that the separation of the U.S. population into gulf-determined groups makes little difference in the correlation derived and justifies the use of all three groups together. It indicates also that the major null hypothesis is confirmed for both populations.

The null hypothesis that the gulf is not related to any of the subjectively determined divisions of the D Scale is confirmed for both populations as indicated by the figures in Table 2.

TABLE 2
CORRELATIONS OF GULF SCORES WITH SUBDIVISIONS OF THE D SCALE

Scale subdivision	U.S.		India	
	r	*N*	*r*	*N*
Personality	—.079	102	.002	119
Gulf	—.027	102	.016	119
Rejection	.053	102	—.139	119

The low correlations called into question the reliability of the gulf data. Two groups of data bear upon this question, both suggesting that the gulf data are sufficiently reliable for experimental purposes but neither being definitive. The first answer to the question derives from a test-retest reliability study. The study used an interval of seven days and an Oklahoma college population of 56. The resultant reliability coefficient was .72. This study is open to the objection that some *S*s may have remembered their previous answers and put those down although all *S*s were instructed to answer—on the second occasion—as they felt at the time of the second testing. The second answer derives from a previous study (3), which used the gap rather than the gulf, in which eight of 10 differences between means were significant for an Oklahoma college population and nine of 10 were significant for an Indian college population. *One* significant difference would indicate the reliability of a scale, let alone this number of significant differences in two different populations. This answer bears upon the gap rather than the gulf, however, and the gap involves one variance while the gulf involves two variances, making the gap more reliable. Taken together, however, the studies are quite convincing.

While the populations did not differ significantly on the correlation factor, they did differ significantly in both mean gulf and mean D Scale score (Table 3). The U.S. mean D score was very near the neutral point, while the Indian mean indicated more dogmatism. The two distributions overlapped only a little, the *t* value of the difference being 20.

The mean gulf of both populations was negative, but that of the U.S.

population was very near the zero point while that of India was reliably more negative ($t = 3.15$). A negative gulf means that a foreign country was assigned a larger percentage of good people than was the parent country. Finally, the mean negative gulfs were a function of response to specific countries rather than being a random factor (Table 3).

TABLE 3
DISTRIBUTION OF SCORES

Statistic	U.S.		India	
	D Scale	Gulf	D Scale	Gulf
M*	2.38 (a)	−.032 (b)	3.91 (c)	−.179 (d)
σ	.51	.34	.61	.35
N	102	102	119	119
t : (a) *vs.* (c) = 20.24**				
t : (b) *vs.* (d) = 3.15**				

* The figure in (a) and (c) is the mean score on a single question where 2.5 is the neutral point, 5 is the extreme of agreement, and zero is the extreme of disagreement.

** Where 1.98 indicates significance at the 5 per cent level.

D. Summary, Discussion, and Conclusions

Two groups of college students, one from Oklahoma and the surrounding territory and the other from various States of India, were asked essentially to do two things: first, to answer the Rokeach D Scale; second, to indicate what percentage of people in various countries, including the United States and India, acted "good." The difference between the percentage assigned by *S* to his own country and the next highest percentage was divided by the range and called the "gulf" because it was an index of the distance between the ingroup and the nearest outgroup corrected for the tendency of *S* to assign large or small differences in general.

The assumption, based upon authoritarian personality theory, was that the gulf would be large for dogmatists (authoritarians) and low for nondogmatists and, therefore, the correlation between scores on the D Scale and the gulf would be positive and significant. The possibility that various subdivisions of the D Scale would yield different results was envisioned. What was not envisioned was that a substantial number of *S*s in both countries rated other countries above their own. This suggested an analysis by groups: those who saw their own country as best, those who ranked other countries as high as their own, and those who saw other countries as best. This analysis was carried out for the U.S. population only and with the full scale only. None of the differences between the correlations even approached significance, indicating that the subpopulations were not different on this score.

The tests of the various hypotheses indicated no significant correlations between the gulf scores and various D Scale scores for either population. The two populations did differ significantly on mean total D Scale scores, the Indians being more dogmatic than the Americans. Both populations yielded negative mean gulfs, that of the Indian being significantly more negative. In both cases the negative gulf was a function of the response to particular countries rather than resulting from a random distribution of responses across countries.

In brief, the data offer little comfort to authoritarian personality theorizing. It seems reasonable to suppose, however, that the analysis of stereotypy into the components listed below might be fruitful:

1. Organismic variables: (*a*) hostility and (*b*) indoctrination.
2. Environmental variables: (*a*) specific ingroup, (*b*) specific outgroup, and (*c*) specific stereotype.

References

1. Adorno, T. W., *et al.* The Authoritarian Personality. New York: Harper, 1950.
2. Bavelas, A. A method of investigating individual and group ideology. *Sociometry,* 1942, **5**, 371-377.
3. Gladstone, R., & Gupta, C. G. A cross-cultural study of the behavioral aspects of the concept of religion. *J. Soc. Psychol.,* 1963, **60**, 203-211.
4. Rokeach, M. The Open and Closed Mind. New York: Basic Books, 1960.

Department of Psychology
Oklahoma State University
Stillwater, Oklahoma 74075

The Journal of Social Psychology, 1964, **64**, 27-43.

SACRED AND PROFANE MEANINGS OF BLOOD AND ALCOHOL* [1]

Bureau of Social Science Research, Inc., Washington, D. C.

SAMUEL Z. KLAUSNER

A. INTRODUCTION

Common sense might suggest that drinking pathologies would most likely occur where alcoholic beverages are most common.[2] A series of studies have cast doubt on this notion. Bales (1), for example, found that though most Jews drink, few drink heavily. He explained that since alcohol is involved in sacred symbolism among Jews, it is less likely to be abused in secular situations. Snyder (28) reasoned that if this were the case, orthodox Jews would be less likely than secularized Jews to drink pathologically. He found that the greater the ceremonial drinking, the lower the frequency of intoxication and, thus, essentially confirmed Bales' hypothesis. Mangin (19), studying the Andean Indians, also found universal drinking but few pathologies and similarly accounted for this in terms of the presence of ceremonial drinking. The finding was further supported by Lolli (17), who found ubiquitous alcohol and little excess in an Italian population. The fact of nearly universal drinking without drinking pathologies, either as addictive alcoholism or frequent drunkenness, among Jews and some other groups is well established.

The hypothesis that this finding may be explained in terms of some relation between religious and secular drinking is also supported by other studies. For example, the religious character of alcohol is suggested by the ambivalent relation to it. As Freud (7) suggests, not everything approached ambivalently is religious, but all of what is religious partakes of ambivalence. Jewish

* Received in the Editorial Office on March 30, 1964, and given special consideration in accordance with our policy for cross-cultural research.

[1] This study was made possible by a grant from the Scientific Advisory Committee of the Licensed Beverage Industries. Appreciation is expressed to Eugenia Arnold for her help in gathering the data; to the personnel of the Human Relations Area Files for the facilities placed at our disposal; and to Professors Charles Kadushin, and Ivan Vallier for helpful comments on an earlier draft of this manuscript. The late Anton Zigmund-Cerbu made signal suggestions.

[2] The term "drinking pathology" should be reserved for alcoholic addiction, "a chronic behavioral disorder manifested by repeated drinking of alcoholic beverages in excess of the dietary and social uses of the community . . ." [see (12)]. A review of other definitions of alcoholism may be found in Bowman and Jellinek (3). Some studies use indicators pointing simply to heavy or frequent drinking. This latter more flexible definition will be followed in this paper.

acceptance of alcohol, on the one hand, and repugnance at its improper use, on the other, has been noted by Snyder (28). Myerson (21) analyzed the way drinking allows one simultaneously to release aggressive inhibitions and achieve fellowship. Lolli (18) discussed the ambivalent nature of attitudes to alcohol in terms of a reunion of the strange.

The religious character of drinking is also suggested by the psychodynamics of its pathology. Alcoholism as an exaggerated form of normal drinking may be compared with mysticism as an exaggerated form of normal ritual. Both tend to develop in narcissistic personalities with oral dependency needs and to be related to homosexual fantasies (6).

The involvement of religious-type factors is also suggested by studies that have attested to the relative success of religious-type cures for some categories of alcoholics. The activities of the Bowery Mission, the Salvation Army, the Oxford Group Movement, Alcoholics Anonymous, and the Emmanuel Movement have been reported by Clinebell (4). Trice (32) described the recruitment of members to Alcoholics Anonymous, and Bales (2) and Trice (33) analyzed its therapeutic rituals. Impressive among these is the admission of powerlessness, acceptance of a power greater than the self, a self-inventory, and the mutual support among members of the group as seen in Tiebout (30). There is an impressive similarity between these and ceremonials in more formally religious situations.[3] Thus, that some relation should exist between religious and secular drinking seems reasonable. Bales and Snyder suggest that this relation is an inverse one: where there is ceremonial drinking there would not be heavy drinking in secular situations. This formulation of an inverse relation between religious and secular drinking has been brought into question. Sayres (26), for example, studying drinking in rural Colombia, found a positive correlation between ceremonial drinking and alcoholism. This was also the finding among the Tarahumara of Central America. Snyder (28, p. 180) recognized this last as inconsistent with his hypothesis about the Jews, but explains that since orthodox Judaism, unlike the Tarahumara religion, is a total way of life, Jewish religious ceremonials are more likely to inhibit secular drinking norms.

B. Testing the Bales-Snyder Hypothesis

This paper presents a cross-cultural test of the hypothesis of an inverse relation between ritual drinking and heavy drinking in secular situations. It

[3] Compare, for example, the notions of religious experience of William James (11). See especially pp. 377f where he compares the consciousness produced by alcohol with that of mysticism. On the relation between religious-type rituals in specifically religious and other types of group situations see Klausner (14, 15, 16).

will be shown that the hypothesis is not supported cross-culturally. We will then be faced with the fact that there are some societies, such as the Jewish, where the inverse relation between secular and religious drinking does hold. An alternative explanation for the relationship will be offered and then tested cross-culturally.

The hypothesis will be tested with data from 48 societies listed in the Human Relations Area Files at Yale University. The societies selected are the first 48 in the alphabetical listing with some record that they use alcoholic beverages in any situation.

These societies were classified in terms of their use of alcoholic beverages in religious and secular situations. Neither the concept of religious situation nor the concept of secular situation has a homogeneous referent. There are many types of religious and many types of secular situations. Perhaps drinking in certain types of religious situations is inversely related to drinking in certain types of secular situations and not in others. A test of the hypothesis should allow for this possibility. Consequently, the notions of both religious and secular situations are partitioned to allow individual correlations between drinking practices in several types of religious and several types of secular situations.

Secular situations are classified into those which are primarily occupational, familial, social, or political.[4] A toast at the conclusion of a sale is classed as occupational drinking. A wife presenting her husband with a draught after working hours exemplifies familial drinking. Drinking with friends at a bar illustrates social drinking, and a petitioner's drinking of wine with a tribal chief is called political drinking.

Secular situations are not always distinct from the religious. In some societies, religious situations are less differentiated from the secular than in others. For example, church and state are relatively more independent of one another in the United States than in Pakistan. Within the same society, religious and secular situations are liable to mingle at some points and not at others. For example, in American society religion and family meet in such *rites de passage* as birth and marriage, but the family is relatively independent of religion in socializing the child for occupational roles. Consequently, within the overall secular classification the purely secular are distinguished from the religiosecular situations. The use of wine at a meal is classed as simply familial secular unless the fieldworker's report indicates religious implications. If there are such implications, the situation is classed as familial religiosecular. Each

[4] This classification follows Talcott Parsons' ordering of institutional functions (22).

society for which there is information is scored according to whether there is light, heavy, or no drinking in each type of purely secular or religiosecular situation. Where there is information on several instances of the same type of situation, the society is scored according to its predominant habit for that type of situation.

There have been numerous attempts to classify religious situations for social scientific analysis.[5] For this study, religious ceremonials are classified according to their orientation and then according to the means employed.[6] Orientation refers to the "meaning" of the ceremony for the participants (36). Four principal religious orientations may be distinguished along with the ceremonial forms characteristic of them. Each orientation may be formulated theologically. Following are the ceremonial orientations and the traditional theological formulations of each orientation: (*a*) Ceremonies may concern the relation of man to nature. These deal with the cosmological problem. They tend to involve magic and to look toward the future. Agricultural fertility rites and rain ceremonies fall in this category. (*b*) Ceremonies may concern the uncertain outcome of events, especially human events. Theologically, this is the eschatological problem. These also tend to be magical in form and to look toward the future. They include human fertility rites, initiatory rites, funerals, marriages, births, healing ceremonies, and rites to harm an enemy. (*c*) Ceremonies may be oriented to the relation of man to man or of man to God or society. This is the anthropological problem. These tend primarily to look to the past or the present and to be concerned with social solidarity. They include ceremonies of communion and allegiance to symbolize oneness, pilgrimage to unite through distance, and ancestor worship to unite through time. (*d*) Ceremonies may be oriented to the ground of meaning or basic values. This is the axiological problem. These include revelation, divination, and religious education. Too few examples appeared in the societies studied for analysis of this fourth category.[7]

---

[5] We are concerned with delineating religious action rather than religious belief situations. A classical distinction between religious belief and religious action is presented in Durkheim (5). Among ritual attitudes Durkheim distinguishes the negative cult, or ascetic rites, from the positive cult which includes sacrifice and imitative, commemorative, and piacular rites. W. Robertson Smith (27) distinguishes among various kinds of sacrifices according to the participants' intent and the materials used. Joachim Wach (35) distinguishes cults according to the social affiliation of the worshippers. A good systematic statement of the problem is that of Parsons (23).

[6] This is an application of the means-ends schema in the analysis of action. For a history of this type of approach see Parsons (24). A recent fruitful application of this type of analysis is that of Merton (20) and the literature on deviant behavior that has followed from it. The term "orientation" is preferable to the term "ends" for this paper because we are dealing with nonempirical religious action.

[7] On the level or moral action, the ceremonial types parallel the cardinal virtues of Plato and the natural virtues of St. Thomas. In the order given above, the

Religious means were divided into four categories which may be designated by the type-names: exorcism, scapegoating, sacrifice, and prayer. Exorcism is an attempt by a person (or group) to control a spirit within another person or object. It may involve, for example, ordeals or incantations to compel the spirit or a summoning of the spirit by request or ruse. Scapegoating transfers the spirit (unusually evil) to some outside object which becomes its embodiment. This means includes, for example, burning in effigy and tabooing of a person or an object consequent to some act. Sacrifice involves giving up a part of the self, particularly in concert with others, in order to establish a relation with the spirit. An animal or grain offering might be made to the deity or his representative. The sacrifice might be a communal feast or an offering completely consumed on the altar. Prayer, like sacrifice, involves surrender or recognition that the self is an ineffective agent. Prayer is characterized by expressive and nonmanipulative verbal behavior or recitations.[8]

Each society was classified according to whether each ceremonial type is reported and, if so, whether the ceremony is accomplished with or without alcohol, or whether alcohol is specifically tabooed in conjunction with the ceremony.

The Snyder-Bales hypothesis, suggesting a negative correlation between religious use of alcohol and heavy secular drinking, is examined in Tables 1A, 1B, and 1C. Each table deals with ceremonies of a single orientation. The columns are divided according to the means used. Scapegoating is omitted for lack of cases. The rows list the purely secular and the religiosecular situations in each of the four institutional spheres. The data are presented in phi coefficients. They express the degree of association between the use or the nonuse of alcohol in each religious situation and the tendency to drink heavily or lightly in each secular situation. A positive coefficient indicates that use of alcohol in the religious situation is associated with heavy secular drinking; and its nonuse, with only moderate secular drinking.

---

corresponding virtues are fortitude, temperance, justice, and prudence. A disturbance of action in any of these spheres appears on the ontological level as the existential anxieties described by Tillich (31). In the order presented above, these are the anxieties of meaninglessness and emptiness (vis-à-vis the environment), fate and death, guilt and condemnation, and meaninglessness and emptiness (vis-à-vis the ground of meaning or value). On the social system level, each ceremonial type coincides with a function for the system. Following the terminology of Parsons (25), the functions are—in the order presented above—adaptive, goal gratificatory, integrative, and pattern maintenance.

[8] Other means, some of which belong in the above categories, were separately classified but there were insufficient cases for separate analysis. These included saturnalia, thanksgiving feasts, orgies, role reversal, periods of license, active ascetic rites, self-mortifications and the piacula, nonsacrificial religious communions such as commensal rites, contemplative mysticism, divination, and soothsaying.

Fifty-eight out of 63 phi coefficients are positive. These show that the use of alcohol in conjunction with most religious ceremonies is associated with heavy drinking in most secular situations. Within limits of the sample, this indicates that the Snyder and Bales hypothesis does not hold cross-culturally. Instead, the more common expectation of cultural consistency seems to be supported. If alcohol is prominent in one part of the culture, then it tends to be prominent in another part, and *vice versa.*

TABLE 1A
ASSOCIATION BETWEEN DRINKING IN RELIGIOUS SITUATIONS ORIENTED TOWARD THE NATURAL WORLD AND DRINKING IN SECULAR SITUATIONS
Phi coefficients (N in parentheses)

Secular institution	Ceremonies oriented to control the natural world		
	Prayer	Exorcism	Sacrifice
Occupational			
Nonreligious	.00 (24)	*	.18 (13)
Religious	.28 (13)	.26 (16)	.47 (19)
Family			
Nonreligious	.04 (25)	.31 (13)	.24 (11)
Religious	—.02 (17)	.17 (27)	.42 (25)
Social			
Nonreligious	.10 (16)	.14 (32)	.09 (17)
Religious	.37 (15)	.41 (28)	.86 (24)
Political			
Nonreligious	.11 (25)	*	*
Religious	.24 (11)	.33 (17)	.81 (16)

* Fewer than 10 cases.

TABLE 1B
ASSOCIATION BETWEEN DRINKING IN RELIGIOUS SITUATIONS ORIENTED TOWARD THE UNCERTAIN OUTCOME OF HUMAN ACTION AND DRINKING IN SECULAR SITUATIONS
Phi coefficients (N in parentheses)

Secular institution	Ceremony oriented to uncertain outcome of human action		
	Prayer	Exorcism	Sacrifice
Occupational			
Nonreligious	—.23 (27)	.04 (13)	.08 (13)
Religious	.23 (13)	.57 (12)	1.0 (18)
Family			
Nonreligious	.07 (10)	.37 (14)	.54 (11)
Religious	.03 (19)	.27 (30)	.43 (22)
Social			
Nonreligious	.16 (18)	.22 (25)	.38 (20)
Religious	.19 (17)	.43 (30)	.75 (24)
Political			
Nonreligious	*	*	*
Religious	—.03 (12)	.35 (20)	.79 (14)

* Fewer than 10 cases.

The Snyder and Bales explanation for moderate secular drinking among the Jews does not seem generalizable. However, their finding that Jews use alcohol in religious ceremonies and yet drink only moderately in secular situations still stands as a challenge. Is this merely a deviant case—perhaps

TABLE 1C

ASSOCIATION BETWEEN DRINKING IN RELIGIOUS SITUATIONS ORIENTED TOWARD MORAL INTEGRATION AND DRINKING IN SECULAR SITUATIONS

Phi coefficients (N in parentheses)

Secular institution	Morally integrative orientation		
	Prayer	Exorcism	Sacrifice
Occupational			
Nonreligious	.12 (24)	—.35 (11)	—.08 (12)
Religious	.78 (12)	.42 (16)	.80 (15)
Family			
Nonreligious	.14 (25)	.46 (10)	*
Religious	.04 (17)	.02 (23)	.30 (21)
Social			
Nonreligious	.03 (16)	.03 (18)	.26 (17)
Religious	.58 (14)	.20 (20)	.71 (20)
Political			
Nonreligious	.04 (17)	*	*
Religious	.58 (14)	.09 (14)	.72 (11)

* Fewer than 10 cases.

along with Italians, Tarahumara, and a few others—or is some principle operative other than that of the simple inverse relation between religious and secular drinking?

C. ALCOHOL AND THE PROBLEM OF EVIL: AN ALTERNATIVE HYPOTHESIS

Inspection of the above table suggests a direction in which an answer might be found. In 20 of 27 cases where data are available for both the purely secular and religiosecular situation, the association is stronger for religiosecular drinking. That is, in cultures where alcohol is used with religious ceremonials, there is an especial likelihood of heavy drinking with religiously implicated activities in the secular sphere. This supports a cultural consistency hypothesis that the use of alcohol generalizes along lines of common meaning. The religious situations in which drinking occurs give the stamp of "meaning" to the drinking. That is to say, the "meaning" of alcohol in a culture may be read from the "meaning" of the religious situation in which it appears. The religious drinking situation most correlated with secular drinking indicates the "meaning" of drinking most relevant in these secular situations. Among the various religious means, the strongest association is that between sacrificial

drinking and heavy drinking in secular situations. This is most marked where the orientation is toward moral integration and control of the human world. Finding that secular drinking is most closely associated with sacrificial drinking leads us to inquire into the "meaning" of the sacrificial ritual. It has been suggested that sacrifice as a ceremonial means is closely linked to the establishment of communion between man and man and between man and God, especially when their solidarity is threatened by sin and guilt (5, 27). Sacrifice enables the worshippers to transcend the barrier which sin erects in the relation of man to man or man to God. The guilt or sin offering is a significant type of sacrifice (27, Lecture IX). Thank offerings may be thought of as self-denials imposed to attenuate the guilt associated with receiving. Propitiatory sacrifices allow a claim to immunity from an impending disaster on the basis of penance. In the broadest sense, sacrifice is that part of religious ritual which deals with the problem of evil, especially the evil in man's relation to man and to God. The use of alcohol in conjunction with sacrifice suggests a link between its use and dealing with the problem of evil. This is the "meaning" which is generalized to the secular situation. That is, it may be used in secular as well as in religious situations, to meet the problem of evil. Alcohol, however, occurs in other religious situations, and so may have other meanings as well.[9] By what right do we assign priority to a single meaning? Let us look at Table 2, which shows that alcohol has a special affinity for sacrificial ceremonies.

TABLE 2
PROPORTION OF SOCIETIES USING ALCOHOL WITH A PARTICULAR CEREMONY
(Among Societies Having That Type of Ceremony)

Orientation of ceremony	Type of ceremony			
	Scapegoating	Prayer	Exorcism	Sacrifice
Control of natural world	.45 (9)	.48 (25)	.53 (36)	.76 (23)
Control of human world	.36 (14)	.36 (28)	.49 (41)	.61 (31)
Morally integrative	.36 (11)	.48 (25)	.41 (29)	.63 (27)

Table 2 shows the proportion of societies using alcohol with a given ceremony among those that have the ceremony. Thus, for example (upper-right cell), there were 23 societies having sacrificial ceremonies for control of the natural world. Of these societies, 76 per cent used alcohol with those ceremonies. To the left of this figure we read that of 36 societies using exorcism for control of the natural world, 53 per cent accompany these rites with alcohol. Regardless of the orientation of the religious ceremony, sacrifice is more likely than any other means to be accompanied by alcoholic drinking.

[9] In India, for example, it seems more often associated with fertility rites.

Alcohol does occur with the other means and thus has those meanings as well. The association, however, between alcohol and sacrifice is the strongest. This justifies emphasizing its relation to the problem of evil.[10]

D. Alcohol and Blood

Tracing the history of the development of sacrifice gives a more qualitative sense of the nature of its relation to alcohol. This development has been outlined by W. Roberston Smith.

> . . . the fundamental idea of sacrifice is not that of a sacred tribute, but of a communion between the God and his worshippers by joint participation in the living flesh and blood of a sacred victim . . . in the more advanced forms of this ritual this idea becomes attenuated and tends to disappear, at least in the commoner kinds of sacrifice. When men cease to eat raw or living flesh, the blood, to the exclusion of the solid parts of the body, comes to be regarded as the vehicle of life and the true *res sacramenti*. And the nature of the sacrifice as a sacramental act is still further disguised when . . . the sacramental blood is no longer drunk by the worshippers but only sprinkled on their persons, or finally finds no manward application at all, but is wholly poured out on the altar . . . (27, p. 345f).

With cultural rationalization, there is greater emphasis on the essence of the sacrifice, the blood. Blood represents the life or the soul of the animal. Blood libation may become a significant part of the sacrifice, sometimes accompanying and sometimes substituting for the communal eating of the flesh. With increasing rationalization, and the cessation of actual animal sacrifices, wine may be substituted as a symbolic equivalent of blood. Smith attests to this wine-blood equivalence in semitic cultures. ". . . the libation of blood is a common semitic practice . . . and . . . the libation of wine is in some sense an imitation of, and a surrogate for, the primitive blood offering" (27, p. 231).

Goodenough, studying art symbols in Asia Minor, comes to a similar conclusion.

> . . . the symbols of fluid kept an amazing similarity of values throughout the civilization of the ancient world. The basic desires were to get the fluid which represented the life, and so the life giving power, of the god or goddess. . . . The god released this fluid as his unspecified "body fluid," as his blood and as his semen. The goddess gave her milk in place of semen. . . . Very early in Mesopotamia, Asia Minor, Syria and Greece, the god offered his fluid ritualistically in a ceremony of drink-

[10] Reading the columns, we find that the orientation of the ceremonies appears to be considerably less of a determinant of the use of alcohol than are the means. Apparently the means involve a hidden orientation in addition to the manifest orientation of the ceremony.

> ing. . . . This carried over from what may have been a variety of fluids until wine, which was at once the blood of the grape and of the God, became par excellence the fluid for ceremonial drinking and libations . . . . . . Busse . . . concludes that there were two kinds of offering: an older one, the original tribal offering to Yahweh which consisted of the animal and its poured out blood alone; and a later sacrifice which consisted of the animal and of bread with a libation of wine . . . when in a strange land and with their Temple destroyed the Jews could make no more blood sacrifices and so used wine offerings in place of blood (9, VI, p. 130).

Gaster, drawing together Frazer's observations on a broader spectrum of cultures, writes:

> By eating the body of the god he shares in the god's attributes and powers. And when the god is a corn-god, the corn is his proper body; when a vine-god, the juice of the grape is his blood; and so by eating the bread and drinking the wine the worshipper partakes of the real blood and body of his god. Thus, the drinking of wine in the rites of a vine-god like Dionysus is not an act of revelry; it is a solemn sacrament (8, p. 466).

As a supplementary evidence of the symbolic equivalence of wine and blood, Goodenough refers to a transition situation where wine and blood are mingled together. His example is taken from the Jewish ceremony of *mazizah,* where the circumciser orally mingles the blood of the circumcised with wine (9, p. 145).

Thus, it is the opinion of these scholars of ancient religions that wine in conjunction with sacrificial rituals is a symbolic equivalent of blood. This association may be examined in the societies sampled. The societies were classified according to whether they used blood at all either in religious or secular situations. This included blood used as a libation, spilt as a penance, sprinkled on worshippers, and drunk or licked in a ceremony of blood brotherhood. Table 3 shows the association between using blood in any of these situations and using alcohol in religious ceremonies.

TABLE 3
RELATION BETWEEN USE OF BLOOD IN SOCIETY AND USE OF ALCOHOL WITH RELIGIOUS CEREMONIES
Phi coefficients (N in parentheses)

Orientation of ceremony	Type of ceremony			
	Scapegoating	Prayer	Exorcism	Sacrifice
Control of natural world	—.32 (9)	.38 (25)	.17 (36)	.09 (33)
Control of human world	.05 (14)	.21 (28)	.31 (41)	.38 (31)
Morally integrative	.25 (11)	.45 (25)	.29 (29)	.21 (27)

Eleven out of 12 of the coefficients are positive. Where blood is used in the society, alcohol is used in religious ceremonies. Since almost all of the use of blood is religious, the table attests to the coexistence of wine and blood in religious ceremonies.

E. The Menstrual Taboo and Attitudes Toward Blood

Having established the equivalence of alcohol and blood, we may analyze the attitudes toward and the use of alcohol in a society in terms of its attitude toward and use of blood. The nature of the menstrual taboo will be taken as an indicator of the attitude toward blood. Where blood is considered especially sacred, there is an ambivalent attitude toward the menstruating woman. Smith describes the relation between the conception of blood as holy and the attitude toward menstruation.

> . . . the impurity of menstruation was recognized by all the Semites, as in fact it is by all primitive and ancient peoples. Now among the savages this impurity is distinctly connected with the idea that the blood menses is dangerous to man. . . . That unclean things are tabooed on account of their inherent supernatural powers or associations, appears further from the fact that just these things are most powerful in magic; the menstruous blood in particular is one of the strongest of charms in most countries, and so it was amongst the Arabs (27, p. 447f).

The existence of the menstrual taboo seems to be universal. Societies may be classified, however, according to whether the restrictions they impose upon women during menstruation are light or severe. In the more severe cases not only is intercourse discouraged, but the menstruating women may be secluded.

Gaster gives a good description of severe menstrual taboos.

> As the garments which have been handled by a sacred chief kill those who handle them, so do the things that have been touched by a menstruous woman. Hence, during their menstrual periods, Australian women are forbidden under pain of death to touch anything that men use, or even to walk on a path that men frequent. . . . In Uganda pots which a woman touches while the impurity of menstruation is upon her have to be destroyed. . . . Among the Bribri Indians of Costa Rica a menstruous woman is regarded as unclean. The only plates she may use for her food are banana leaves, which, when she is done with them, she throws away in some sequestered spot; for were a cow to find them and eat them, it would waste away. And she drinks out of a special vessel for a like reason; if anyone drank out of the same cup after her, he would surely die (8, p. 167).

The relation between a menstrual taboo (an indicator of the attitude toward blood) and the use of blood (a symbolic equivalent of alcohol) may be exam-

ined among the societies in our sample. Situations where blood figures in religious observances, such as in a libation to the gods or as part of a penance, may be distinguished from secular situations where it is drunk, perhaps even as a form of food. These uses of blood may be cross-tabulated with the severity of the menstrual taboo. We find that those societies that have a severe menstrual taboo tend to use blood religiously but not to drink it. Those without a severe menstrual taboo tend to drink blood but not to use it religiously ($\phi = .27$, $N = 25$). If we keep in mind the blood-alcohol relation, the preceding remarks suggest that the menstrual taboo might be the key to the inverse relation between religious and secular drinking found by Snyder and Bales. To test this, it would be appropriate to compare secular and religious drinking in societies that do and in societies that do not have severe menstrual taboos. However, there are too few cases to allow this double break. Consequently, the existence of a severe menstrual taboo will first be related to drinking in religious and then to drinking in secular situations. Table 4 shows the relation between the existence of a severe menstrual taboo and the use of alcohol in various religious ceremonies.

TABLE 4
RELATION BETWEEN EXISTENCE OF SEVERE MENSTRUAL TABOO AND THE USE OF ALCOHOL WITH RELIGIOUS CEREMONIES
Phi coefficients (N in parentheses)

Orientation of ceremony	Type of ceremony			
	Scapegoating	Prayer	Exorcism	Sacrifice
Control of natural world	.35 (9)	—.23 (25)	.07 (36)	—.05 (33)
Control of human world	.38 (14)	—.01 (28)	.12 (41)	.04 (31)
Morally integrative	.07 (11)	.10 (25)	.28 (29)	.13 (27)

The relation is positive in nine out of the 12 cases, but is generally small. A severe menstrual taboo is slightly associated with the use of alcohol in religious ceremonies. The association is so slight, however, that it provides no more than an interesting hypothesis which might be further examined, given additional cases. It is not surprising that the menstrual taboo–alcohol relation is strongest in the case of scapegoating as a religious means. In both cases a person or thing is separated because of ritual impurity.

What now is the relation between the existence of a severe menstrual taboo and heavy drinking in secular situations? This relation is examined in Table 5.

There is a small positive relation between the existence of a severe menstrual taboo and heavy drinking in religiosecular situations. This corresponds to the finding in the previous table but extends it to religious-type ceremonies embedded in a secular institutional context. The religiopolitical is the single

exception. The taboo is negatively correlated, however, with heavy drinking in purely secular situations. The political situation is again the single exception. Thus, while the relation of the menstrual taboo to religious drinking is unclear, the indication that purely secular drinking is curtailed by a menstrual taboo seems acceptable. The Bales-Snyder hypothesis may be revised to read that where blood is considered holy, as indicated by the existence of a severe menstrual taboo, blood will tend not to be used secularly; nor will alcohol, its symbolic equivalent, tend to be drunk heavily in purely secular situations.

TABLE 5
RELATION BETWEEN SEVERE MENSTRUAL TABOO AND HEAVY DRINKING IN SECULAR SITUATIONS
Phi coefficients (N in parentheses)

Secular situations	Phi N
Occupational	
Nonreligious	—.30 (15)
Religious	.19 (24)
Family	
Nonreligious	—.21 (15)
Religious	.03 (33)
Social	
Nonreligious	—.37 (29)
Religious	.05 (32)
Political	
Nonreligious	.00 (9)
Religious	—.01 (22)

Thirty-seven of the 48 societies here included were also studied by Horton (10). This provides an opportunity to check our findings in terms of his categories as well. He classified societies according to their general degree of sobriety. Cross-tabulating his measure with the presence of a severe menstrual taboo, we find that where there is a severe menstrual taboo there is not likely to be severe insobriety in the society ($\phi = .33$).

Thus, the relation between religious and secular drinking is not the simple one posited by Bales and Snyder. They presumed that the mere use of alcohol in religious ceremonies gave it a sacred meaning and so restricted its secular use. We find that the relationship is more indirect. Alcohol, as used in religion, may be considered more or less sacred in various societies. We have assessed its sanctity by analyzing the sanctity of blood as its symbolic equivalent. The existence of a severe menstrual taboo was taken as an indication that blood has an exceedingly sacred status. Societies that consider blood as very sacred will develop avoidance toward it in secular situations, and will correspondingly moderate secular drinking. Societies having a severe menstrual taboo may use

alcohol in religious situations while restricting its secular use. This generalization fits the special case of the Jews who, like other Semitic peoples, have a severe menstrual taboo. The menstrual taboo operates at a deep psychic level. Where it exists, there is no need for explicit social sanctions to control the secular use of alcohol.

F. Implications

Linking alcohol to sacrificial blood suggests that dealing with the problem of evil is one function of drinking. In ancient days the problem of evil, especially that kind which disturbed the solidarity of man and man, was a central concern of religion. In modern Western society, religious institutions are becoming less and less concerned with the problem of sin, guilt, or evil. This is evidenced in Protestantism by a decline in penitential and confessional rites and the near disappearance of the "hell and damnation" preacher. Further, while the "universal church" tends to be socially implicated, "denominational" religion has been evolving as a specialized institution distinct from the other social institutions. The problem of social evil arising within these institutions becomes in fact, if not in ideal, less of a concern to religion. The evidence for this is the way the social gospel has been giving way to religion considered as individual experience and to morality considered as an individual responsibility. A "solution" to the problem of evil, however, is no less of a personal and social need. It is not surprising, therefore, to find that the "solution" is sought outside of religion in secular society. Secular sociality, especially when accompanied by drinking, may have this type of integrative and guilt-ridding function. Perhaps modern social drinking, as in the cocktail party, fulfills, in part, a function formerly met through sacrificial rituals. A moment's thought impresses one with the formal similarity between the cocktail party and the ancient sacrificial ritual. Drinking is a group activity performed according to normative prescriptions. Each person expects others to drink, and urges them to do so. Their failure to participate is felt as a betrayal. Descriptions of ancient sacrifices given by Smith and of the totem feasts analyzed by Durkheim could be applied to cocktail parties. Significantly, once participants are admitted to the situation, the effort is one of removing distinctions between them and asserting their solidarity. The historical link between the toast and the offering of blood to a god would seem possible to establish. The fact that cocktail parties may be organized along occupational lines is of interest here. In former times, religious worship formed a part of guild life. Here we find a religious-type integrative element reintroduced into occupational association.

How do our findings relate to the studies that show that alcoholism or heavy

drinking is associated with social instability or with anxiety? Straus and Bacon (29), for example, studied the relation of drinking to occupational integration. Ullman (34) related it to lack of clarity in the norms concerning drinking. Klausner (13) reviewed some evidence relating drinking to lack of integration in the general community, in the family, and in religious society. Underlying these studies is the notion that social structural breakdowns leave the individual in a socially or normatively ambiguous situation. This ambiguity generates an anxiety which is the more direct agent producing alcoholism. The relation of anxiety to drinking pathology is well substantiated by Horton (10) in his studies of primitive societies. He demonstrated that with greater threat to subsistence there tends to be a greater amount of drinking. In his own words, "the strength of the drinking response in any society tends to vary directly with the level of anxiety in that society." The contention of this paper is entirely consistent with these views. However, we take an additional step and suggest why, under these circumstances, people turn to alcohol rather than to some other solution to their anxiety. With increasing social strain and increasing individual anxiety, one often observes an increase in religious observance. The multiplying of human sacrifices among the Aztecs while they were being threatened by the Spaniards is a case in point. Following our notion of the parallel between the sacrificial ritual and drinking suggests that under strain people turn to alcohol as the modern representative of the sacrificial cults for the riddance of evil.

G. Next Steps in Research

Several questions remain unanswered. The relation of the attitude toward blood to ceremonial use of alcohol is still unclear. It would be useful at this point to complete the study by taking those societies in which there is a severe menstrual taboo and examining those which do and do not show an inverse relation between ceremonial and secular use of alcohol, and then doing the same for the societies that do not have a severe menstrual taboo. A more detailed inspection of the literature about these societies might provide some leads for clarifying the hypothesis. It would also be worthwhile to gather data for another hundred societies so that the statistical significance of the results might be assessed. These steps would complete the present research.

Assuming that the hypothesis can be demonstrated on this cross-cultural data, it would be useful to test it on an American population. This could be accomplished by a survey research technique which would inquire about attitudes to blood, menstruation, and drinking habits. These three factors have been sufficiently specified to allow a rather simple and direct test of the

hypothesis. Establishing the relation between them would have immediate implications for dealing with the problem of alcoholism.

References

1. Bales, R. F. The "fixation factor" in alcohol addiction. Unpublished Doctoral dissertation, Harvard University, Cambridge, 1944.
2. ———. The therapeutic role of Alcoholics Anonymous as seen by a sociologist. *Quart. J. Stud. Alcohol,* 1944, **5**, 267-278.
3. Bowman, C. M., & Jellinek, E. M. Alcohol addiction and its treatment. In E. M. Jellinek (Ed.), *Effects of Alcohol on the Individual: A Critical Exposition of Present Knowledge.* New Haven: Yale Univ. Press, 1942.
4. Clinebell, H. J., Jr. Some religious approaches to the problem of alcoholism. Unpublished Doctoral dissertation, Columbia University, New York, 1954.
5. Durkheim, E. The Elementary Forms of the Religious Life. Glencoe, Ill.: Free Press, 1954.
6. Fenichel, O. The Psychoanalytic Theory of Neurosis. New York: Norton, 1945. Pp. 40, 379f.
7. Freud, S. Totem and Taboo. New York: Modern Library, 1938.
8. Gaster, T., *Ed.* The New Golden Bough. New York: Criterion Books, 1959.
9. Goodenough, E. R. Fish, Bread, and Wine (Vol. VI of *Jewish Symbols in the Greco-Roman Period*). New York: Pantheon Books, 1956.
10. Horton, D. The functions of alcohol in primitive societies. *Quart. J. Stud. Alcohol,* 1943, **2**, 199-320.
11. James, W. The Varieties of Religious Experience. New York: Modern Library, 1929. Pp. 377f.
12. Keller, M. Alcoholism: Nature and extent of the problem. *Ann. Amer. Acad. Pol. & Soc. Sci.,* 1958, **315**, 1-11.
13. Klausner, S. Z. Worship. Unpublished report of the Bureau of Applied Social Research, Columbia University, New York, 1959.
14. ———. Spirit and spirts. Unpublished report of the Bureau of Applied Social Research, Columbia University, New York, 1960. (An abstract appears in *Soc. Progress,* 1961, **52**, 27-32.)
15. ———. Why they chose Israel. *Arch. Sociol. & Relig.,* 1960, **9**, 129-144.
16. ———. The social psychology of courage. *Rev. Relig. Res.,* 1961, **3**, 63-71.
17. Lolli, G. Alcoholism as a disorder of the love disposition. *Quart. J. Stud. Alcohol,* 1956, **17**, 96-107.
18. Lolli, G., Serianni, E., Golder, G., & Luzatto-Fegiz, P. Alcohol in Italian Culture. Glencoe, Ill.: Free Press, 1958.
19. Mangin, W. Drinking among Andean Indians. *Quart. J. Stud. Alcohol,* 1957, **18**, 55-66.
20. Merton, R. K. Social structure and anomie. In R. K. Merton (Ed.), *Social Theory and Social Structure* (2nd ed.) Glencoe, Ill.: Free Press, 1957.
21. Myerson, A. Alcohol: A study of social ambivalence. *Quart. J. Stud. Alcohol,* 1940, **1**, 13-20.
22. Parsons, T. Sociology and social psychology. In monograph series *Religious Perspectives in College Teaching.* New Haven: Edward W. Hazen Foundation, no date.
23. ———. The Structure of Social Action. Glencoe, Ill.: Free Press, 1937.
24. ———. Working Papers in a Theory of Action. Glencoe, Ill.: Free Press, 1953.
25. Parsons, T., & Smelser, N. Economy and Society. Glencoe, Ill.: Free Press, 1956.

26. SAYRES, W. C. Ritual drinking, ethnic status, and inebriety in rural Colombia. *Quart. J. Stud. Alcohol,* 1956, **17**, 53-62.

27. SMITH, W. R. Lectures on the Religion of the Semites (3rd ed.) New York: Stanley A. Cook, 1927.

28. SNYDER, C. R. Alcohol and the Jews: A Cultural Study of Drinking and Sobriety. Glencoe, Ill.: Free Press, 1958.

29. STRAUS, R., & BACON, S. Alcoholism and social stability: A study of occupational integration in 2023 male clinic patients. *Quart. J. Stud. Alcohol,* 1951, **12**, 231-260.

30. TIEBOUT, H. M. The act of surrender in the therapeutic process with special reference to alcoholism. *Quart. J. Stud. Alcohol,* 1949, **10**, 48-59.

31. TILLICH, P. The Courage To Be. New Haven: Yale Univ. Press, 1952.

32. TRICE, H. M. A study of the process of affiliation with Alcoholics Anonymous. *Quart. J. Stud. Alcohol,* 1957, **18**, 39-54.

33. ———. Alcoholics Anonymous. *Ann. Amer. Acad. Pol. & Soc. Sci.,* 1958, **315**, 108-116.

34. ULLMAN, A. D. Socio-cultural background of alcoholism. *Ann. Amer. Acad. Pol. & Soc. Sci.,* 1958, **315**, 48-54.

35. WACH, J. The Sociology of Religion. Chicago: Univ. Chicago Press, 1944.

36. WEBER, M. The Theory of Social and Economic Organization. Glencoe, Ill.: Free Press, 1947. Pp. 88f.

Bureau of Social Science Research, Inc.
1424 Sixteenth Street, N.W.
Washington 6, D. C.

The Journal of Social Psychology, 1964, 64, 45-51.

GROUP MEMBERSHIP, SEX-COMPOSITION OF THE GROUP, AND CONFORMITY BEHAVIOR*[1]

United States Air Force and University of Florida

HAROLD T. REITAN AND MARVIN E. SHAW

A. PURPOSE

The many studies of conformity behavior have shown that conformity is influenced by at least four classes of variables: (*a*) the personality characteristics of the individual (4, 8), (*b*) the kind of stimuli evoking the response which reflects the conformity behavior (3, 12), (*c*) situational factors (2, 6), and (*d*) intragroup relationships (9, 10, 14). The present report is concerned with the effects of personal attributes and intragroup relationships upon conformity behavior.

The particular personal attributes of interest are those reflected in group memberships. Belonging to groups and participating in group activities requires a certain degree of conformity to group norms. A person who joins many groups is likely to be a person who needs consensual support, or at least a person who is willing to behave in accordance with group standards. Furthermore, it is possible that those individuals holding membership in many groups become "conditioned" to conformity behavior by virtue of experience in groups. Thus, on the assumption of a degree of generality of conformity behavior (5, 11), it seems reasonable to suppose that individuals belonging to many groups will have a greater tendency to conform than those belonging to fewer groups.

The intragroup relationship that we are concerned with is the sex composition of the group. On theoretical grounds, it may be argued that females in our society play a relatively submissive role, whereas males play a relatively dominant role. Furthermore, there appears to be a stereotyped belief in our society that men are superior to women in certain areas of cognitive functioning, such as judgments of size and distance (14). These considerations lead to the expectation that females will demonstrate more conformity behavior than males, and that both males and females will be more influenced by

* Received in the Editorial Office on November 27, 1962. Copyright, 1964, by The Journal Press.

[1] The authors wish to thank Dr. Jack M. Wright and Dr. Frederick H. Hartmann for their many helpful suggestions and constructive criticisms.

the judgments of males than by judgments of females. The experimental evidence, however, is conflicting. The results reported by Tuddenham *et al.* are generally in accord with such expectations. These authors found that males conformed more in same-sex groups, whereas females conformed more in mixed-sex groups than in same-sex groups. Luchins and Luchins (9), on the other hand, found that in dyads males tended to conform more to the erroneous judgments of a female confederate than to erroneous judgments of a male confederate. An unfortunate form of analysis (*t* tests between individual means rather than anova) used by Tuddenham *et al.* and differences in the size of the groups used in the two experiments make it difficult to interpret these apparently conflicting results.

The present experiment was designed to investigate the following hypotheses:

Hypothesis I. Individuals having many group memberships will exhibit more conformity behavior than those having fewer group memberships.

Hypothesis II. Females will exhibit more conformity behavior than males.

Hypothesis III. Females in mixed-sex groups will conform more than females in same-sex groups.[2]

B. Method

1. *Manipulation of Variables*

Group membership was defined operationally in terms of reported membership by *S*s. A group of 302 students enrolled in introductory psychology courses at the University of Florida completed a questionnaire listing the formal groups in which they currently held or formerly had held membership. The median number of memberships was 5 (range = zero–23) for males, and 8 (range = zero–19) for females. *S*s with a score greater than the median for their sex group were classified as having high group membership and those below the median as having low group membership. On this basis, 24 males and 24 females were selected from the high-membership group and a like number from the low membership group.

Within each group-membership classification, *S*s were randomly assigned to either a mixed-sex group (two males and two females) or to a same-sex group (four males or four females). Thus, a $2 \times 2 \times 2$ factorial design resulted, with sex (male *vs.* female), sex-composition (mixed-sex *vs.* same-sex), and group membership (high *vs.* low) as the main sources of variance.

[2] It was expected that males would be influenced by the sex-composition variable, but in view of the conflicting experimental evidence no specific prediction seemed justified.

2. *Apparatus*

The apparatus used was similar to that described by Crutchfield (8). It consisted of four cubicles arranged in a semicircle facing a projection screen. Each cubicle had a response-display panel having four rows of three lights each (one row for each of the four *S*s and one light for each of three possible responses) and three mercury switches to be used by *S* to report his own judgment of stimuli.

S's cubicles were curtained for additional isolation. *E*'s position, located between the two inner *S* cubicles, had a response panel having 12 lights (one light wired to each of the switches on *S*s' panels) and a control panel having 12 mercury switches (one switch wired to one of the 12 lights on each *S*'s panel). Consequently, when *S* operated one of the switches on his panel, it illuminated the corresponding bulb on his panel and on *E*'s response panel. When *E* operated a switch on his control panel, it lighted the appropriate bulb on each *S*'s panel. Thus, although *S*s believed that the lights on their panel revealed the responses of others in the group, the lights were in fact actuated by *E*, except of course when *S* responded himself.

A Beseler opaque projector was used to project stimuli on the screen in front of *S*'s cubicles.

3. *Stimuli*

Two sets of nine stimuli were used. One set of stimuli were the line stimuli used by Asch (3), modified so that the projected lines were twice as long as those used by Asch. The other set required judgments of relative area. Each stimulus consisted of three geometric figures (squares, rectangles, parallelograms, etc.). *S*s were instructed to select the line of the same length as a standard line (for Asch-type stimuli) and the figure having the greatest area (for the area stimuli). A control group of 24 *S*s (12 male and 12 female) indicated a response error of 2.8 per cent for critical stimuli.

4. *Procedure*

When *S*s reported to the laboratory, they were introduced to each other (to insure that each *S* was aware of the sex of other *S*s) and then asked to be seated in one of the cubicles. The nature of the task and the manner of responding were explained in detail. *S*s were told that the order of responding would be random, and that each *S* was to respond when *E* called out the number displayed in his cubicle. All cubicles were given the same number so that all *S*s actually responded simultaneously. Responses for the other three positions were of course made by *E*. Talking was prohibited.

Each set of stimuli was presented twice. For Stimuli 1, 2, and 5 in each set, *Ss* responded in fourth position; *E* indicated unanimous, but erroneous, judgments for the other three positions. On all other stimuli, *Ss* reported in random order and *E* signaled correct judgments for the other positions. Thus, there were 12 critical trials on which all *Ss* were exposed to a unanimous majority making incorrect judgments. Agreement with this majority judgment was taken as the measure of conformity.

Following presentation of the stimuli, *Ss* were requested to complete a questionnaire designed to determine whether *Ss* (*a*) were concerned about disagreements, (*b*) became doubtful of own accuracy, (*c*) were tempted to answer as others did, and (*d*) answered as others did against own better judgment.

When the questionnaires had been completed, *E* explained the true purpose of the experiment and requested *Ss* not to discuss the experiment with others until the experiment was completed.

C. Results

Seventy-three of the 96 *Ss* yielded at least once; they yielded a total of 227 times out of 1,152 opportunities, or 24 per cent of the time. *Ss* yielded 135 times in response to the area stimuli and 82 times in response to the line stimuli, a difference significant beyond the .001 level of confidence; however, this difference was uniform across conditions, and so data for the two kinds of stimuli were combined for purposes of analysis.

TABLE 1

Medians and Ranges of Conformity Scores for Males and Females in the Various Experimental Conditions

Sex	Parameter	Mixed-sex groups		Same-sex groups	
		High group membership	Low group membership	High group membership	Low group membership
Males	Median	1.5	2.0	2.0	1.0
	Range	0-12	0-5	0-4	0-3
Females	Median	2.5	4.0	5.0	1.0
	Range	0-11	0-9	0-9	0-12

Table 1 shows the medians and ranges of conformity scores for the various experimental conditions. Since the distributions were markedly skewed, data were analyzed by the Mann-Whitney *U* test (13). Although high group-membership *Ss* yielded more than low group-membership *Ss* (medians were

2.8 and 2.0 respectively), differences were not statistically significant; therefore, Hypothesis I was not supported.

Females yielded more than did males ($t = 2.05$, $p < .05$), thus supporting Hypothesis II.[3]

The effect of the sex-composition variable was evaluated by testing differences in conformity in same-sex and in mixed-sex groups for males and females considered separately, and for both males and females combined. When males and females were considered separately, there were no significant differences between same-sex and mixed-sex groups ($t = 1.66$, $p < .10$, for males; $t = 0.85$, $p < .40$, for females). However, all *Ss*, regardless of sex, conformed more in the mixed-sex than in the same-sex groups ($t = 2.01$, $p < .05$). Thus, sex composition appears to be a significant variable in conformity behavior; both men and women conform more in mixed-sex groups than in same-sex groups. The failure to find significant differences when males and females were considered separately is probably due to the reduced *N*.

Questionnaire results are of some interest. There were no differences attributable to group memberships or to sex; however, significantly more *Ss* indicated that they were concerned about disagreements in the mixed-sex than in the same-sex groups (36 *vs.* 26; $\chi^2 = 4.55$; $p < .05$), and that they became doubtful of their accuracy (34 *vs.* 23; $\chi^2 = 5.23$; $p < .05$). More *Ss* also reported that they were tempted to change their judgment in the mixed-sex than in the same-sex groups (30 *vs.* 24), but this difference was not significant. There were no differences in number of *Ss* admitting that they conformed in different sex-composition groups (16 in each condition). These results lend support to the more objective findings concerning the effects of the sex-composition variable.

D. Discussion

From the results reported above, it is apparent that number of group memberships, as measured in this study, is not related to conformity behavior. This may mean that expectations about the causes and effects of belonging to groups are in error; i.e., that conformists and nonconformists are equally likely to join groups and that having done so has no effect upon their tendency to conform. It is also possible that the measure of group membership used in this study was not a reliable and/or valid one. *Ss* may have erred, deliberately or otherwise, in reporting their group memberships. Finally, it may be that only certain kinds of group memberships are related to conformity; e.g., social and political groups, but not professional organizations.

[3] Two-tailed tests were used for all comparisons reported in this article.

The finding that females conform more than males merely supports previous findings (1, 5, 7). The effects of sex-composition are of more than passing interest, however. The present results are in accord with those reported by Luchins and Luchins (9) showing that males conformed more to erroneous judgments of females than to those of other males, and contrary to the conclusion drawn by Tuddenham, MacBride, and Zahn (14) that men tend to yield less in mixed-sex than in same-sex groups. However, Tuddenham *et al.* point out that their conclusion is based upon significant differences in a minority of tests made, and there were some reversals in the general trend. Therefore, the bulk of the evidence at the present time seems to indicate that both sexes conform more in mixed-sex than in same-sex groups.

If this conclusion is valid, the influence and/or existence of a stereotyped belief that males are superior to females in perceptual judgments is called into question. Rather, it appears that the interpersonal relations between the sexes is relatively more important as a determinant of conformity. As Luchins and Luchins (9) suggested, men may not wish to be in a position of disagreeing with a lady, or they may find female *S*s a distracting influence which reduces their confidence in the accuracy of their judgments.

In general, the results reported here demonstrate the complexity of the multitude of variables determining conformity behavior. The results suggest further that increased attention to the study of interpersonal relations and conformity would yield fruitful results.

E. Summary

An experiment was conducted to study the effects of group memberships and sex-composition upon conformity behavior. Ninety-six undergraduates served in a $2 \times 2 \times 2$ factorial design, varying group memberships, sex, and sex-composition. Each *S* made 36 judgments of line and area stimuli, 12 of which were critical judgments on which he was led to believe that all others in a four-person group had made an erroneous judgment. Agreement with this erroneous judgment was taken as a measure of conformity.

Group membership was found to be unrelated to conformity, possibly due to the unreliability of the measure of group membership used in this experiment.

Sex and sex-composition both were found to be related to conformity. Females conformed more than males, and both males and females conformed more in mixed-sex than in same-sex groups. These results were interpreted in terms of interpersonal relations between the sexes. It was suggested that further investigations of the effects of interpersonal variables upon conformity

behavior might be expected to add materially to the understanding of conformity processes.

References

1. Applezweig, M. H., & Moeller, G. Conforming behavior and personality variables. Tech. Rep. 8, Contract Nonr 996 (02), Connecticut College, New London, 1958.
2. Argyle, M. Social pressure in public and private situations. *J. Abn. & Soc. Psychol.*, 1957, **54**, 172-175.
3. Asch, S. E. Studies of independence and conformity: I. A minority of one against a unanimous majority. *Psychol. Monog.*, 1956, **70**, No. 9 (Whole No. 416).
4. Barron, F. K. Some personality correlates of independence of judgment. *J. Personal.*, 1953, **21**, 287-297.
5. Beloff, H. Two forms of social conformity: Acquiescence and conventionality. *J. Abn. & Soc. Psychol.*, 1958, **56**, 99-104.
6. Blake, R. R., Helson, H., & Mouton, J. S. The generality of conformity behavior as a function of factual anchorages, difficulty of task, and amount of social pressure. *J. Personal.*, 1957, **25**, 294-305.
7. Coleman, J. F., Blake, R. R., & Mouton, J. S. Task difficulty and conformity pressures. *J. Abn. & Soc. Psychol.*, 1958, **57**, 120-122.
8. Crutchfield, R. S. Conformity and character. *Amer. Psychologist*, 1955, **10**, 191-198.
9. Luchins, A. S., & Luchins, E. H. On conformity with true and false communications. *J. Soc. Psychol.*, 1955, **42**, 283-304.
10. Raven, B. H., & French, J. R. P., Jr. Group support, legitimate power, and social influence. *J. Personal.*, 1958, **26**, 400-409.
11. Rosner, S. Consistency in response to group pressures. *J. Abn. & Soc. Psychol.*, 1957, **55**, 145-146.
12. Sherif, M. An experimental approach to the study of attitudes. *Sociometry*, 1937, **1**, 90-98.
13. Siegel, S. Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill, 1956.
14. Tuddenham, R. D., MacBride, P., & Zahn, V. The influence of the sex composition of the group upon yielding to a distorted norm. *J. of Psychol.*, 1958, **46**, 243-251.

Psychology Department
University of Florida
Gainesville, Florida

The Journal of Social Psychology, 1964, **64**, 53-56.

THE INDUCTION OF SHARED THREAT: A METHODOLOGICAL CAUTION*[1]

Department of Psychology, Goucher College

GEORGE STRICKER

A. INTRODUCTION

The relationship between shared threat and social prejudice has been approached in widely different manners by Feshbach and Singer (2), who used a paper-and-pencil technique, and Burnstein and McRae (1), who used a small-group approach. Both investigators hypothesized that shared threat would serve to reduce social prejudice.

Feshbach and Singer presented their subjects (*Ss*) with essays, followed by questions for them to answer which were constructed so as to induce either the feelings of personal threat (Marriage, Mental Health, Fire), shared threat (Floods and Hurricanes, Atomic War), or neutrality (Pay Television). Pre- and post-essay administration of a social-prejudice questionnaire derived from the California *E* scale provided the data for the study. No report of an attempt to assess directly the effects of this threat-induction procedure was included other than its effects on the *E*-scale items. Although change scores were used rather than absolute scores, possibly increasing the chances of finding differences between groups, the results were little more than suggestive. The Marriage and the Fire essays yielded t scores with $p < .05$, although the former, due to differences in variance, ultimately had to be evaluated by means of a less powerful median test. The Mental Health essay yielded a t with $.05 < p < .10$. Both Shared Threat essays yielded t scores with $p > .10$, although the Floods and Hurricanes essay was promoted to significance by means of the median test. All in all, the results provided a promising entree to an important area, but did not show a clear and consistent confirmation of the relationship being studied.

Burnstein and McRae drew upon Killian's experiences (3) in an actual Floods and Hurricanes type of situation to explain the failure of Feshbach and Singer to find definitive support for the hypothesis. They question whether the *S* would define his reference group in wide-enough terms to include members

* Received in the Editorial Office on November 29, 1962. Copyright, 1964, by The Journal Press.

[1] The author would like to thank Dr. Daniel M. Forsyth for making his class available and Miss Hermine Mareiniss for her help in administering the study.

of minority groups, and feel that this weakness in the technique led to the weakness of the findings. They then attempt to induce shared threat by manipulating behavior in a small group and find more clear, although still not definitive, support for their hypothesis.

The study to be reported began as an attempt to utilize Feshbach and Singer's essay technique in a validation study for the Objective Apperception Test—(OAT; 5). The hypothesis under consideration was that the personal-threat essays would lead to aggression [". . . a personal or ego threat results in an increase in hostility" (2, p. 412),] while the shared-threat essays would result in insecurity ["All groups share not only the danger but also the responsibility of coping with that danger" (2, p. 412)]. The results of the study have more implication, however, for the methodological approach than for the validity of the OAT.

B. Method

The *S*s for this study were 94 Goucher College undergraduate students, about half of whom were in Introductory Psychology, and half in Social Psychology. The experiment was conducted during a regularly scheduled class period.

The *S*s first filled out a Mood Adjective Checklist—(ACL; 4)—in order to establish their initial affective state. The ACL consisted of 48 adjectives to be endorsed on a fully anchored four-point scale ranging from "do not feel this way" to "definitely feel this way." The 48 adjectives included a cluster of eight adjectives pertinent to aggression and a cluster of eight adjectives pertinent to insecurity.

Then the *S*s were given one of the six essays to read, with assignment of booklets made at random, and were instructed to "read the (essay) carefully . . . read the questions, think about them in the light of the information presented on the first page and what you may know about the area, and then carefully formulate your answers to the question." Following this the ACL was readministered in order to assess directly the effects of this procedure. The OAT was then administered.

C. Results and Discussion

The ACL changes following the administration of the Feshbach and Singer essays are summarized in Table 1. Column 1 indicates whether the adjectives showed an increase, a decrease, or no change in their rating. Since each *S* contributes eight separate pieces of information to this column, differences cannot be analyzed statistically. However, it appears obvious that the dom-

inant response to the essays was "no change." For Column II of Table 1, each individual has been assigned either to an "increase" or "no change" group, requiring an increase on at least half of the adjectives in a cluster in order to be placed in the "increase" group. Those essays designed to induce aggression led to increases in only 4.5 per cent of the *Ss*, while those designed to induce insecurity produced increases in 14.3 per cent of the *Ss*. In no case was a chi square between the neutral Pay Television essay group and any crit-

TABLE 1
ACL CHANGES FOLLOWING READING OF THE ESSAYS

Attitude	Column I Changes in individual adjectives Increase	Decrease	No change	Column II Changes in subjects Increase	No change
		Atomic war			
Aggression	14	4	102	2	13
Insecurity	26	6	88	4	11
		Floods and hurricanes			
Aggression	13	4	119	2	15
Insecurity	10	20	106	0	17
		Mental health			
Aggression	7	13	100	1	14
Insecurity	19	29	72	1	14
		Fire			
Aggression	4	2	114	0	15
Insecurity	17	5	98	1	14
		Marriage			
Aggression	15	10	103	1	15
Insecurity	19	19	90	3	13
		Pay television			
Aggression	11	2	115	1	15
Insecurity	12	17	99	1	15

ical essay group on either cluster greater than 2.44 ($p > .05$). These results seem to point to the lack of efficacy of the essays in producing the desired mood change.

Analysis of the OAT showed no differences between any of the groups. In light of the previous findings, showing no mood differences between the groups, this was all that could be expected.

As a result of these ACL data, we might add a practical reason for the weakness of the Feshbach and Singer findings to the theoretical explanation offered by Burnstein and McRae. The essays apparently had little effect in this situation, failing to create the anticipated mood in almost 95 per cent of the *Ss*. The only surprise is that the Feshbach and Singer results were even minimally suggestive. In the case of Feshbach and Singer, perhaps the specific

instructions to the *S*s, which were not reported, were more efficacious than ours in inducing involvement in the *S*s. In any case, it appears that an investigator in this area would do well to assess directly the effect of his technique for the induction of shared threat before proceeding to study the phenomenon.

D. Summary

Ninety-four *S*s were administered the six Feshbach and Singer essays designed to induce feelings of personal or shared threat. Analysis of pre-post ACL data showed that the essays were unable to create the desired mood changes in the great majority of the *S*s tested.

References

1. Burnstein, E., & McRae, A. V. Some effects of shared threat and prejudice in racially mixed groups. *J. Abn. & Soc. Psychol.*, 1962, **64**, 257-263.
2. Feshbach, S., & Singer, R. The effects of personal and shared threat upon social prejudice. *J. Abn. & Soc. Psychol.*, 1957, **54**, 411-416.
3. Killian, L. M. The significance of multiple-group membership in disaster. *Amer. J. Sociol.*, 1952, **57**, 309-314.
4. Nowlis, V., & Green, R. F. The experimental analysis of mood. Proceedings of the XVth Internat. Congr. of Psychol., Brussels, Belgium, 1957.
5. Stricker, G. The construction and partial validation of an objectively scorable apperception test. *J. Personal.*, 1962, **30**, 51-62.

Department of Psychology
Adelphi University
Garden City, L.I., New York

The Journal of Social Psychology, 1964, **64**, 57-64.

THE RELATIONSHIP BETWEEN LEADERSHIP AND PERSONALITY ATTRIBUTES PERCEIVED BY FOLLOWERS* [1]

Wayne State University and University of Michigan, Dearborn

CLARE CLIFFORD AND THOMAS S. COHN[2]

A. INTRODUCTION

Social scientists investigating leadership have shown an increasing consideration of group-members' perception (4, 7, 9, 10, 11, 12). This is evident both in research oriented around leader behavior, *per se,* and in trait-oriented studies.

In some of the latter studies that utilize a perceptual approach, a trend can be detected toward repeating the earlier futile attempts to establish universal traits for leaders. For example, in spite of reference to "specific social milieu," Jennings (4) hypothesizes that certain qualities, such as freedom from self-concern, may generalize to other sociogroups.

Van Dusen (10) attributes possible wide applicability to his results after analyzing description of the "good" leaders. He states that his study "represents a technique for the eventual isolation of factors which may be common to leadership in 'all' groups." After reviewing the leadership literature, Gibb (2) makes the statement: "There are indications certain traits . . . are frequently found to characterize leaders of various types, in a variety of situations."

Despite these intuitive feelings that some sort of universal traits will be found, following their thinking through to a logical conclusion would indicate the contrary. If the leadership role is determined by the group-members' perceptions, then as the leader role varies there should be a corresponding change in group-members' perceptions. There is some reason to believe that a limited range of leader roles has been investigated, which could account for the discoveries of apparently common traits among different groups.

* Received in the Editorial Office on December 4, 1962. Copyright, 1964, by The Journal Press.

[1] Portions of this paper were presented before the American Psychological Association in Cincinnati, Ohio, September, 1959. The paper is based on a Master's thesis submitted to the Department of Psychology, Wayne State University.

[2] The authors wish to express their gratitude for the help received on the research to Professors C. G. Browne and James Dent; and also, to thank Professor Virgil Brown, whose cooperation made this study possible.

The present study was an attempt to vary the leader roles to a greater extent than done before and to relate them to concomitant variations in group-members' perceptions of the individual elected to fill these roles.

The hypotheses were formulated as follows:

1. Leadership is a function of the personal attributes of the leader as perceived by the followers.

2. As the situation changes, the perceived personal attributes of the individual selected for the leader role will change.

B. Subjects

Seventy-nine boys and girls, in a summer camp, ranging in age from 8 to 13 composed the sample. They were organized into 12 groups determined by the camp procedure of assigning campers of the same age and sex to a cabin. They spent four weeks together. The majority of the children were from the upper-middle socioeconomic group.

C. Procedure

To measure perceived personality attributes of leaders, a questionnaire asking "Who is best?" on 12 items (see Table 1) was administered in private

TABLE 1
The Questionnaire

Name ..... Observer ..... Date .....

1. Which kid gives orders best?
2. Which kid has the best ideas?
3. Who is the smartest kid in the cabin?
4. Who is the friendliest kid?
5. Which kid is liked the most in the cabin?
6. Who is the best baseball player? (*boys only*)
   Who is the best housekeeper in the cabin? (*girls only*)
7. Which kid is best at knowing how the other kids feel?
8. Who is the best looking kid in the cabin?
9. Who is best at sports?
10. Who is the best swimmer?
11. Who can get the others to do good things?
12. Who can get the others to do bad things?

to each camper 17 days after camp started. Nine elections by secret ballot in various camp situations were later obtained during the four-week period. For each election, enough time had elapsed so that the election could be based on actual performance. Kendall's tau (5), calculated on the IBM 650, was used to determine the relationship between each perceived personality attribute and each leadership index.

D. Results and Discussion

Eleven of the 12 attributes and seven of the nine elections (one item and two elections pertained to the sex variable alone) were intercorrelated, and 26 per cent ($n = 20$) of the taus ($n = 77$) computed were significant beyond the .05 level (see Table 2). These results support the hypothesis that leadership is correlated with the personal attributes of the leader as perceived by the followers.

For the total group, there was only one duplication in the "patterns" of perceived attributes required in various roles. This finding supports the second hypothesis that, as the situation changes, the perceived personal attributes of an individual selected for the leader role will change. For example, the social-chairman role was similar to the rest-monitor role in that there were no perceived attributes in relation to either role for the total group, in spite of the statistically significant relationship of the perceived attribute of "best ideas" to the social-chairman role and the perceived attributes of "smartest" and "best looking" to the rest-monitor role for the girls. However, as reported in the research cited earlier, there was some overlapping of role requirements with similar situations. "Best ideas" was related to four of the seven roles for the total group, and the perceived attributes of "best at giving orders" and "best at getting others to do good things" were related to three each.

In contrast to this slight generalization of attributes, the perceived attribute of "best at knowing how the others feel," which has been described as a prerequisite for the leadership role by Chowdry and Newcomb (1), was related to only one role—that of the planner.

This variability in the role requirements suggests support for Sanford's (8) assertions that the followers may choose a functionally competent leader when the group goal involves a task requiring competence, but a warm, approving leader when competence is not essential.

In this study, situations in which there were frequent planning and directions of group action required perceived functional competence. For example, the planner and the arts-and-crafts roles, in which both daily planning and daily responsibility for group action were required, are related to "best at giving orders," "best ideas," and "best at getting others to do good things." Emphasis on functional competence was notable, also, in the swimming-captain's role, in which the pattern of required perceived attributes consisted of "best swimmer" and "best at getting others to do things."

With decreasing "group task orientation" as exemplified by the reporter role, and increasing "social orientation" as exemplified by the banquet-chairman

TABLE 2
TAUS FOR TOTAL GROUP

Attribute	Planner	Banquet chairman	Rest monitor	Wish-loader	Swimming captain	Arts & crafts	Reporter
Orders	.28**	.21*	—.12	.11	.09	.35**	.11
Ideas	.38**	.26**	.07	.13	.14	.18*	.23*
Smart	.24*	.05	.16	.13	.07	.14	.39**
Friendly	.23*	.19*	—.02	.04	.06	.16	—.10
Liked	.23*	.26	—.07	—.11	.12	.13	—.12
Empathy[a]	.44**	—.03	—.07	.15	.01	.09	.14
Looks	.13	.14	.18	—.02	.04	.12	.31**
Sports	.14	.19*	.10	—.12	.03	.45	—.01
Swimming	—.10	.07	.05	—.05	.37**	.09	.25*
Good influence	.31**	.03	.08	.18	.19*	.27**	.10
Bad influence	—.07	—.04	—.11	.01	—.01	—.16	—.13

* Significant beyond .05 level.
** Significant beyond .01 level.
[a] From the question: "Which kid is best at knowing how the other kids feel?"

role, the perceived role requirements changed from "giving orders" or "getting others to do good things" to a pattern including attributes specific to the role alone or indicating such pre-eminence as "best looking," "smartest," or generally "good at sports."

Finally, in situations which were purely social in nature (or "flunky," as the rest monitor might be dubbed), we find either no perceived attributes statistically significant or idiosyncratic factors operating.

The results, also, suggest an answer to the question asked by Lippitt *et al.* (6): "Why do certain members with high attributed power demonstrate low manifest power?" The findings in our study indicate that the definition of Lippitt *et al.* that attributed power in terms of group-members' perceptions of "who can get others to do things" is too limited. As an example, in the planner role, "knowing best how the others feel" may be a better indicator of who may gain the leader role than the perceived attribute of "best at getting others to do things," which was not related alone—or at all, in some roles—to manifest power as indicated by elections.

Although the boys and girls agree on parts of the requirements for four roles—the planner, arts-and-crafts, swimming, and reporter roles—there are more sex differences than similarities (see Tables 3 and 4). The girls narrow their choices in contrast to the boys. The girls place more emphasis on functional competence in the planner's role, whereas—for the boys—"liking" has something to do with election to this role. In addition, it is of interest to consider negative relationships for leadership among the boys. The boys elected to the social-activity role are poor at sports and are disliked; and the newspaper reporter might be smart and good looking, but is perceived as being unfriendly. This suggests again, that certain leader roles were "unloaded" on some children and supports the notion that focal positions are not always desired positions. Perhaps some of the contradictions in research in this area may be a function of including in the same category individuals in desirable leader roles and individuals in undesirable leader roles.

Another additional finding is that, in accord with Hollander's and Webb's study (3), friendliness has little to do with elective leadership.

E. Summary

The hypothesis was advanced that there is a relationship between the leader role and perceived attributes and, as the situation changes, the perceived attributes required for the leader role will change. In a camp setting with 79 children, perceptions of peer-group members on 12 attributes were ascertained. Sociometric questions indicating leadership and results of elections

TABLE 3
TAUS FOR THE BOYS

Attribute	Planner	Banquet chairman	Rest monitor	Wish-loader	Swimming captain	Arts & crafts	Reporter	Baseball
Orders	.23	.10	—.16	—.05	.21	.30*	.15	.47*
Ideas	.20	.16	—.04	—.02	.21	.05	.19	.01
Smart	.04	—.05	.06	.02	.22	.08	.48**	.01
Friendly	.34*	.04	.10	—.03	.20	.05	—.40*	.25
Liked	.35*	.21	—.01	—.24*	.21	.22	—.25	.51**
Empathy	.32*	.02	—.16	.10	.13	.16	—.04	.03
Looks	.18	.26*	.07	.03	.17	.05	.54**	.17
Sports	.09	.09	.20	—.28*	.01	.05	—.15	.29
Swimming	—.31*	.06	—.23	.06	.31*	.03	.20	.09
Good influence	.27	—.09	.00	.16	.36*	.29*	.10	.12
Bad influence	—.05	—.12	—.03	.01	—.18	—.21	—.03	—.14
Baseball	.02	.19	.20	—.22	.05	.05	.02	.34*

* Significant beyond .05 level.
** Significant beyond .01 level.

TABLE 4
TAUS FOR THE GIRLS

	Planner	Banquet chairman	Rest monitor	Swimming captain	Wish-loader	Reporter	Arts & crafts	House-keeping
Orders	.34*	.26	—.08	—.06	.16	.20	.40*	.35
Ideas	.54**	.29*	.19	.02	.32*	.26	.48**	.19
Smart	.43**	.20	.32*	—.13	.09	.31*	.22	.14
Friendly	.17	.33*	—.13	—.12	.28	.06	.26	.32
Liked	.11	.30*	—.15	.03	.13	—.03	.00	.14
Empathy	.55**	—.07	.04	—.12	.24	.19	.03	.33
Looks	.08	—.00	.31*	—.11	—.08	.28*	.22	.44
Sports	.18	.40**	—.04	.06	.15	.08	.45**	.37
Swimming	.08	.11	.12	.37*	—.22	.27*	.03	.17
Good influence	.33*	.16	.17	—.08	.18	.18	.24	.31
Bad influence	—.11	.04	—.21	.28*	.04	—.23	—.11	—.18
Housekeeping	—.10	—.06	.15	—.02	—.04	.12	.26	.37

* Significant beyond .05 level.
** Significant beyond .01 level.

for nine different leader roles were obtained. Kendall's tau was used to determine the relationship between each perceived attribute and each elective position. The results supported the conclusion that leadership is—in part, at least—a function of personal attributes perceived by the followers. This means that personality variables may still play a part in understanding leadership. However, the problem should be rephrased in terms of personality variables required of a leader role in a specific situation which is in turn a function of the followers' perceptions.

References

1. Chowdry, K., & Newcomb, T. M. The relative abilities in leaders and nonleaders to estimate opinions of their own groups. *J. Abn. & Soc. Psychol.*, 1952, **47**, 51-57.
2. Gibb, C. A. Leadership. In G. Lindzey (Ed.), *Handbook of Social Psychology: Vol. 2. Special Fields and Applications.* Cambridge, Mass.: Addison-Wesley, 1954. Pp. 877-920.
3. Hollander, E. P., & Webb, W. B. Leadership, followership, and friendship: An analysis of peer nominations. *J. Abn. & Soc. Psychol.*, 1955, **50**, 163-167.
4. Jennings, H. H. Leadership and Isolation. New York: Longmans, Green, 1950.
5. Kendall, M. G. Rank Correlation Methods. London: Griffin, 1948.
6. Lippitt, R., Polansky, N., & Rosen, S. The dynamics of power. *Hum. Relat.*, 1952, **5**, 37-64.
7. Sanford, F. H. Leadership identification and acceptance. In H. Guetzkow (Ed.), *Groups, Leadership, and Men.* Pittsburgh: Carnegie Press, 1951. Pp. 158-176.
8. ———. The follower's role in leadership phenomena. In G. E. Swanson, T. M. Newcomb, & E. L. Hartley (Eds.), *Readings in Social Psychology.* New York: Holt, 1952. Pp. 325-340.
9. Scott, E. L. Leadership and perceptions of organization. No. 82, Bureau of Educational Research Monographs, Ohio State University, Columbus, 1956.
10. Van Dusen, A. C. Measuring leadership ability. *Person. Psychol.*, 1948, **1**, 67-79.
11. Wilk, R. E. The self perceptions and the perceptions of others of adolescent leaders elected by their peers. *Dissertation Abst.*, 1957, **17**, No. 9.
12. Williams, S. D., & Leavitt, H. J. Group opinion as a predictor of military leadership. *J. Consult. Psychol.*, 1947, **11**, 283-292.

Dearborn Center
University of Michigan
4901 Evergreen Road
Dearborn, Michigan

The Journal of Social Psychology, 1964, **64**, 65-76.

COMMUNICATOR CREDIBILITY AND COMMUNICATION DISCREPANCY AS DETERMINANTS OF OPINION CHANGE* [1]

Boston University

TONG-HE CHOO

A. INTRODUCTION

In recent years there has been an increasing number of experimental studies where the variables involved in opinion change are successfully isolated and independently manipulated in order to assess the net effect of each of the variables. However, more attempts should be made to examine the interacting effects of known influences on opinion in order to assess their combined as well as their separate effects. The main interest of the present study is to vary experimentally the degree of communicator credibility and communication discrepancy, thereby investigating the main and the interaction effects of these two variables on opinion change.

The studies on communicator credibility in opinion change indicate, in general, that the more credible the communication source, the greater is the opinion change toward the communication advocated (8, 12).

Opinion change is also a function of the discrepancy between the communicator's opinion position and the recipient's initial opinion position on a given issue. Early studies by Ewing (1) and Sims (16) demonstrated that there is a positive relationship between such discrepancy and opinion change of the recipient. These studies were criticized because they made no effort to control the possible artifacts, "ceiling" and "regression" effects. However, the generalizations are still valid even after these artifacts are controlled (3, 7, 17).

On the basis of the works reviewed above it is hypothesized that:

1. Greater extent of opinion change toward the communication advocated is expected when the communicator is high-credible rather than low-credible.
2. Greater extent of opinion change toward the communication advocated is expected when the communication discrepancy is large rather than small.
3. When the communicator is high-credible, greater extent of opinion

* Received in the Editorial Office on December 6, 1962. Copyright, 1964, by The Journal Press.

[1] This is part of a doctoral dissertation submitted to the Graduate School of Boston University. The author wishes to thank Dr. Walter Weiss, whose support and advice throughout the study were extremely valuable.

change toward the communication advocated is expected for large-discrepancy groups rather than for small-discrepancy groups. When the communicator credibility is low, the expectation is that (*a*) there will be no significant difference between large- and small-discrepancy groups in opinion change; or (*b*) the opinion change of the large-discrepancy group will be significantly greater than that of the small-discrepancy group, but both in the same direction; or (*c*) the effect on the small-discrepancy group will be in the opposite direction to that of the large-discrepancy group. If the latter should occur, then this reversal interaction might well eliminate the main effect of discrepancy.

B. Method

In order to test the above hypotheses, a before-after design involving four experimental and four control groups was employed. The overall design of the study was to present communications which were identical except for the two experimental variables: the High- and Low-Credibility of the source of the communication, and the Large- and Small-Discrepancy manipulated by the anchor statements.

The issue referred to the causal relationship between cigarette smoking and lung cancer.

The *S*s, who were exposed to both sessions, were 216 undergraduates from Boston University.

1. *Before Session*

The questionnaire booklet was presented to the *S*s in a group as an opinion survey on current social issues. The booklet consisted of (*a*) opinion statements on current social issues to be rated in terms of *S*'s own opinion on the issues (11-point scale ranging from zero—complete disagreement, through 5—uncertain, to 10—complete agreement); (*b*) topic headings to be rated in terms of the importance of the topic to the *S* (11-point scale ranging from zero—not important, through 5—moderately important, to 10—extremely important); and (*c*) names of persons and organizations to be rated in terms of "expertness" and "trustworthiness" of the source as a communicator on each topic. The scale for "expertness," which was defined as "the amount of knowledge the communication source has on the topic concerned," had 5 points on a descriptive scale: "the source knows—almost nothing about the topic, only a few facts, some of the facts, most of the facts, all the facts." The "trustworthiness" of the source referred to its being a fair and unbiased communicator of the facts, and the scale ranged from "not trustworthy"—zero, through "moderately trustworthy"—5, to "extremely trustworthy"—10.

The measure of *S*'s initial opinion position was determined from the ratings on the statement: "Cigarette smoking is one of the causes of lung cancer" (mean = 7.09). The importance of the topic of "cigarette smoking and lung cancer" was also determined on the basis of the *S*'s ratings in this session and was found to be important (mean = 6.23). Among the variety of sources that were rated, "Head of the National Cancer Institute" and "Public Health Service" were rated as very high in trustworthiness (means: 8.64 and 8.34 respectively). On the other hand, "American Tobacco Company" and "Director of Tobacco Industry Public Relations Committee" were rated considerably lower in trustworthiness (means: 2.98 and 3.92 respectively). In the rating of the communicator's expertness, these four sources were all in the category of "source likely to know most of the facts." Therefore, it was decided to use "Dr. W. C. Hueper, Head of the Environmental Cancer Section of the National Cancer Institute, Public Health Service," as the High-Credible communicator, and "Mr. J. P. Richards, Director of Tobacco Industry Public Relations Committee," as the Low-Credible source.

2. *After Session*

In this session, eight different booklets were randomly distributed to the *S*s. The distribution of booklets resulted in the assignment of *S*s to either experimental or control groups (in an approximate two-to-one ratio) and to the following treatments: High-Credibility with Large-Discrepancy (HC-LD), High-Credibility with Small-Discrepancy (HC-SD), Low-Credibility with Large-Discrepancy (LC-LD), and Low-Credibility with Small-Discrepancy (LC-SD).

The after session was held two to four weeks after the before session, and was administered by different personnel in order to prevent the *S*s from associating this session with the before session.

The booklet consisted of six pages of mimeographed communication advocating essentially no causal relationship between cigarette smoking and lung cancer, and the scales to measure: (*a*) *S*s' judgments of the communicator's position (11-point scale ranging from zero—complete acceptance, through 5—uncertain or in doubt, to 10—complete rejection of the statement "cigarette smoking is one of the causes of lung cancer"); (*b*) trustworthiness of the communicator (same 11-point scale used in the before measure); (*c*) fairness of the article (11-point scale ranging from zero—completely one-sided, through 5—moderately fair, to 10—completely fair); (*d*) *S*s' own opinion position on the statement used in judging the communicator's position (same 11-point scale as used in the before measure); (*e*)

importance of the topic (same 11-point scale as in the before-measure); (*f*) recall of the content (multiple-choice fact-quiz items based on the content of the communication); and (*g*) smoking habit.

The effect of communication was assessed immediately after the experimental *S*s were exposed to the communication. The control group, which corresponded to the experimental group in every respect other than the communication effect, indicated opinion positions *before* being exposed to the communication.

The two main experimental variables were manipulated in the following manner.

a. Communicator credibility. At the beginning of the communication it was indicated that the article was delivered as a speech by the author specified: that is, Dr. Hueper of the Public Health Service for the High-Credible group, or Mr. Richards of the Tobacco Industry Public Relations Committee for the Low-Credible group.

b. Communication discrepancy. Taking the suggestion of the anchoring effect on judgmental phenomena (13, 17), half of the group received the communication with *anchor* statement and the other half without this anchor. The anchor statement, to the effect that some people hold the extreme opinions that cigarette smoking is unquestionably a cause of lung cancer or that smoking bears no relationship to lung cancer, was inserted at the beginning of the article in the expectation that it would cause the *S*s to judge the communication as less extreme than they would without this anchor. Accordingly, it was expected that the group with this anchor would be, on the whole, less discrepant from the communicator's position than the group without this statement.

C. Results

The results are presented in three sections: 1) the effectiveness of the main experimental variables, 2) the effect of the main variables on opinion change, and 3) the effect of other related variables on opinion change.

1. *The Effectiveness of the Main Experimental Variables*

a. Communicator credibility. The mean after-measure on trustworthiness of the communicator showed that the communicator credibility was successfully differentiated. That is, Dr. Hueper of the National Cancer Institute, who was chosen as the High-Credible communicator, was rated by the *S*s as more trustworthy than the Low-Credible communicator, Mr. Richards of Tobacco Industry Public Relations Committee (means: 7.94 and 5.10 respectively; the difference is significant at the 5 per cent level).

b. Communication discrepancy. Variation in communication discrepancy was to have been induced by the introduction or omission of the anchor statement, as mentioned before. Contrary to expectation, however, the ratings of the communicator's position made by the group *with* anchor statement was not less extreme than the ratings given by the group *without* this anchor (means: 3.06 and 3.45 respectively). Accordingly, no difference between these two groups in their subsequent opinion change would be expected. Therefore, this discrepancy variable related to the anchor statement was not used.

Instead, the communication discrepancy of the present analyses was derived from the *S*s' ratings on the communicator's position. The *S*s were divided into two groups according to the median of all their judgments on the communicator's position (3.18) regardless of their own initial opinion positions. All the experimental *S*s' ratings of their own initial opinion position yielded a mean of 7.13. The below-median groups' judgments of the communicator's position yielded a mean of 1.54, whereas the above-median group yielded a mean of 5.22. The below-median group was more discrepant (7.10-1.54, or 5.56 points on the scale) than was the above-median group (7.16-5.22, or 1.94 points), from their own mean initial position. In the following analyses, the Large-Discrepancy group refers to this below-median group, and the Small-Discrepancy group designates the above-median group. The difference between these two mean discrepancies is significant at the 1 per cent level.

To check on possible artifacts (ceiling, regression, and confounding with *S*s' initial opinion position) in deriving this discrepancy variable, the correlation between *S*s' initial opinion position and the communicator's position judged by the *S*s was computed and found to be negligible. Accordingly, the use of this derived discrepancy variable based upon the judgment of the communicator's position by the *S*s in place of the original variable with the anchor statement is justified.

2. *Communication Effect as a Function of Communicator Credibility and Communication Discrepancy*

Communication effect was assessed by the *change score.* The change score is the difference between the before measures and the after measures in the opinion scores obtained by the rating scale. Positive change score indicates movement toward the communicator's position; i.e., toward the position that there is no causal relationship between cigarette smoking and lung cancer. Negative change signifies movement away from the position advocated by the communicator.

In the assessment of opinion change, all control groups were combined, and this combined control group served as the base line for comparison with the experimental groups. This procedure is based on the assumption that the control groups are homogeneous among themselves, for no significant differences among the control subgroups were found in the various measures obtained in this study.

The mean opinion changes for the experimental groups and for the control group are presented in Table 1; and the analysis of variance applied to the 2×2 table of the two main variables, Communicator Credibility and Communication Discrepancy, is presented in Table 2. There was no significant difference between the experimental and the control groups in their initial opinion positions (means: 7.13 and 7.04 respectively).

TABLE 1

MEAN OPINION CHANGE FOR EACH EXPERIMENTAL SUBGROUP AND THE CONTROL GROUP

	Control group	High-credibility group		Low-credibility group	
		Large-discrepancy	Small-discrepancy	Large-discrepancy	Small-discrepancy
N	67	38	40	42	29
Mean	0.28	2.16**	1.13	1.21	0.45
SD	2.73	2.31	1.95	3.09	2.39
Diff.		1.03		0.76	

** Significant at the .01 level.

The group which was exposed to the communication (experimental group as a whole) shows significantly greater extent of opinion change toward the communication advocated than does the group which was not exposed to it (control group).

The difference between the High- and the Low-Credibility groups within the experimental group is significant by t test ($p < .05$).[2] The group that received the communication attributed to the High-Credible source changed more toward the communication advocated than did the group that read the communication from the Low-Credible source. Also, the difference between the Large- and the Small-Discrepancy groups is significant by t test ($p < .025$). Thus, those who judged the communicator's position as more discrepant from their own stand changed more toward the communication than did those who judged it as less discrepant. The interaction effect between these two main variables, Communicator Credibility and Communication Discrepancy, is not significant. That is, within High- and Low-Credible

[2] In the following analyses, all p values are derived from t ratios and one-tailed tests, unless otherwise specified.

groups, both Large-Discrepancy groups changed more toward the communication advocated than did the Small-Discrepancy groups.

When the experimental groups are compared with the control group, it is noted that the overall High-Credible group shows significantly greater extent of opinion change toward the communication than does the control group ($p < .0005$). Similarly, only the overall Large-Discrepancy group has significantly higher mean change score toward the communication than does the control group ($p < .005$). Both overall Low-Credible and overall Small-Discrepancy groups have higher mean change scores than does the control group, but these differences are not significant ($.10 > p > .05$ for both groups).

TABLE 2
ANALYSIS OF VARIANCE OF CHANGE SCORES FOR EXPERIMENTAL GROUPS WITH CREDIBILITY AND DISCREPANCY AS THE VARIABLES

Source	*s.s.*	*df*	*m.s.*	*F*	*p*
Credibility (C)	19.63	1	19.63	3.14	$.10 > p > .05$
Discrepancy (D)	25.02	1	25.02	4.00	$< .05$
Interaction: C × D	5.85	1	5.85	—	—
Within	907.66	145	6.25		
Total	958.16	148			

Second-order comparisons show no significant interaction. Although all four subgroups show greater mean opinion changes than the control group shows, only the HC-LD group is significantly changed more toward the communication.

The data were also analyzed by the *net proportion of change*,[3] and the same conclusions, on the whole, were derived as from the *change score* presented above, although some changes in the significant level of differences were observed.

3. *Communication Effect Related to Other Variables*

In addition to the main variables, another important variable influencing opinion change in this study is the "importance of the topic."

The experimental group was dichotomized according to the median of the after measure on the importance of the topic (7.05). It was found that the Low-Importance (below-median) group changed significantly more toward the communication advocated than did the High-Importance (above-median) group (mean change scores: 1.76 and 0.80 respectively, $p < .01$). The initial

[3] The net proportion of change is defined by Hovland, Lumsdaine, and Sheffield (11) as the difference between proportion changing positively and proportion changing negatively.

opinion positions of these two groups were not significantly different from each other.

D. Discussion

a. Communicator credibility. The main attribute of Communicator Credibility in the present study was trustworthiness rather than expertness [these two attributes were differentiated originally by Hovland, Janis, and Kelley (10)]. Thus, the conclusion we could derive from the present data is that when both communicators have high expertness, or when expertness is held constant, the trustworthiness attribute alone can differentially affect the *S*'s opinion change.

This result seems to differ from that of Hovland and Mandell (6), who found a marked effect on judgments of fairness of the article, but little effect on amount of opinion change, where the "suspect" source differed from the "nonsuspect" one primarily in characteristics of trustworthiness rather than of expertness.

Hovland, Janis, and Kelley (10) indicated that the small effect they noted in opinion change may be attributable to a special combination of factors such that the extents of the speech and the qualification of the speaker (expertness) were more important than his personal motive (trustworthiness). This explanation does not apply for the present study. A systematic study of the attributes of communicator credibility, expertness and trustworthiness, is one of the areas of research which needs further clarification.

b. Communication discrepancy. The generalization that opinion change is a positive function of communication discrepancy is fairly well documented in the sense of its comparative invariability under diverse experimental conditions and measuring devices. A theory of cognitive dissonance proposed by Festinger (2) presents a somewhat general conceptualization of these phenomena. The central assertion of this theory is that a person who holds cognitions about himself or the environment that are inconsistent with each other experiences dissonance; i.e., psychological tension having drive characteristics. Thus, when the communication advocated is discrepant from the position a person held, "dissonance" is created and "tension" to resolve this dissonance is mobilized to produce opinion change toward the communication. This theory is not the only one which deals with "cognitive inconsistency" and its relation to opinion change. It is similar to Heider's cognitive balance (4), to Osgood and Tannenbaums' principle of congruity (15), and Newcomb's strain toward preferred states of equilibrium (14).

Hovland (5), however, stated in his recent paper that when the communi-

cation source is perceived as credible, opinion change increases with increasing discrepancy; but that when the source is viewed as neutral or ambiguous or negative, then increasing discrepancy *may* lead to decreasing opinion change.

It appears at first that Hovland made a quite different prediction from the predictions of the above cognitive theorists. If, however, the conditions which Hovland, Harvey, and Sherif (9) dealt with are examined, their results are not contradictory to other research findings. That is, when the communicator is ambiguous or neutral and the communicator's position is divergent in an extreme degree, it seems that mechanisms other than opinion change—namely, misinterpretation or dissociation, etc.—are readily available. Their data on ratings of fairness of the communication can explain this phenomenon: for example, where a communication was pro-Prohibition, nearly all of the *S*s who favored Prohibition considered it fair and impartial, but only a small per cent of the *S*s who opposed prohibition considered the identical communication fair.

The present results seem to be in accordance with the cognitive inconsistency theories mentioned above. On the other hand, the present study failed to indicate the resistance to change or contrast effect with Low-Credible communicator and large Communication Discrepancy, contrary to the expectation of Hovland *et al.* These results, however, could be mainly attributed to the high expertness and also comparatively high trustworthiness of the Low-Credible communicator (mean 5.10 on the scale is slightly above the midpoint, moderately trustworthy) used in this study. Moreover, the communication used for the present study was written in a logical form with supporting argument, so that it could not be easily demerited. Therefore, resistance against the communication or the "boomerang effect" described by Hovland *et al.*, what the cognitive theorists call "dissociation" or "devaluation" of the communication, is less likely to have occurred in the present experimental situation. All of the opinion changes with the Low-Credible communicator in the present study showed positive direction, although they were not significantly different from the changes in the control group.

c. Importance of the topic. Present results showed that the more important the topic, the less the opinion change. As the communication advocated that there is no causal relationship between cigarette smoking and lung cancer, the *S*s who felt the topic to be more important should have changed more toward the communication than did the *S*s who rated the topic less important, because this change would release or lessen their anxiety.

In the discussion on the resistance to change on the issue of Prohibition, Hovland, Harvey, and Sherif (9) explained that the highly involved issue

and the established attitude which would serve as an anchor stimulus for the *Ss* might be responsible factors. If the *Ss* in the present study who rated the topic more important are assumed to have formed a stronger initial attitude than the *Ss* who rated the topic less important, a comparable explanation to that given above could be made for the results.

Zimbardo (18), on the other hand, observed increasing opinion change as involvement increased. He explained this difference between his result and that of the above authors by differentiating "issue-involvement," where the issue itself is intrinsically involving, and "response-involvement," where the instrumental meaning of the *S*'s opinion is attached to the consequence of his responses. When the process of acceptance of communication in terms of reinforcement is taken into consideration, Zimbardo's differentiation becomes ambiguous. The concept of the established attitude again seems to be a pertinent one for the explanation of the difference in the above studies. That is, in Zimbardo's *Ss* the communicator was highly credible, but there was little established prior attitude on the issue strong enough to offset the credibility of the communicator.

Hovland, Harvey, and Sherif (9) went a step further to predict that under conditions of high involvement, increasing discrepancy would lead to decreasing attitude change. When the effects of high and low importance are examined separately for Large- and Small-Discrepancy groups in the present study, there was found to be no interaction. The degree of importance or of involvement between the two studies might be different, and might be responsible for the different results. Without making independent and comparable measures of establishment of attitude, importance, discrepancy, etc., no final explanations of the different results are possible.

E. Summary

The purpose of the present study was to vary experimentally the degree of communicator credibility and communication discrepancy, and to investigate the main and interaction effects of these two variables on opinion change.

A review of previous research led to the following hypotheses: Greater extent of opinion change toward the communication is expected when the communicator is High-Credible rather than Low-Credible, and the Communication-Discrepancy is large rather than small. When the communicator is High-Credible, greater extent of opinion change is expected for Large-Discrepancy than for Small-Discrepancy groups.

In order to test the above hypotheses, a before-after design was used. Among 216 college students, 149 *Ss*, who served as the experimental group,

were exposed to a communication which advocated no causal relationship between cigarette smoking and lung cancer. One half of the experimental *Ss* read the communication in which the source was attributed to a High-Credible communicator and the other half read it from a Low-Credible communicator. Also, for one half of each group, a few additional anchor statements, that some people hold at the opinion-extremes on the issue, were inserted at the beginning of the communication in the expectation that these anchor statements would affect the *Ss* to judge the communication as less extreme than they would without these anchor statements.

The checks on the experimental manipulations of the above two variables indicated that only High vs. Low Communicator Credibility was successfully differentiated. Due to the failure of the manipulation of the discrepancy variable by anchor statements, the Communication Discrepancy of the present study was derived from the *S*'s judgments on the communicator's position.

Opinion change was assessed by the change score from before communication to after communication. The experimental group showed significantly greater extent of opinion change toward the communication than did the control group. The results also confirmed the hypotheses advanced, thus:

1. The group that received the communication attributed to the High-Credible source changed significantly more toward the communication than did the group which read the communication from the Low-Credible source.

2. The *Ss* who judged the communicator's position as more discrepant from their own stand changed significantly more toward the communication than did those who judged it less discrepant.

3. The interaction effect between these two main variables, Communicator Credibility and Communication Discrepancy, was not significant. That is, within High- and Low-Credible groups, both Large-Discrepancy groups changed more toward the communication than did the Small-Discrepancy groups.

References

1. Ewing, T. H. A study of certain factors involved in changes of opinion. *J. Soc. Psychol.*, 1942, **16**, 63-88.
2. Festinger, L. A Theory of Cognitive Dissonance. New York: Row, Peterson, 1957.
3. Goldberg, B. C. Three situational determinants of conformity to social norms. *J. Abn. & Soc. Psychol.*, 1954, **49**, 325-329.
4. Heider, F. Attitudes and cognitive organization. *J. of Psychol.*, 1946, **21**, 107-112.
5. Hovland, C. I. Reconciling conflicting results derived from experimental and survey studies of attitude change. *Amer. Psychologist*, 1959, **14**, 8-17.

6. HOVLAND, C. I., & MANDELL, W. An experimental comparison of conclusion-drawing by the communicator and the audience. *J. Abn. & Soc. Psychol.*, 1952, **47**, 581-588.
7. HOVLAND, C. I., & PRITZKER, H. A. Extent of opinion change as a function of amount of change advocated. *J. Abn. & Soc. Psychol.*, 1957, **54**, 257-261.
8. HOVLAND, C. I., & WEISS, W. The influence of source credibility on communication effectiveness. *Pub. Opin. Quart.*, 1951, **15**, 633-650.
9. HOVLAND, C. I., HARVEY, O. J., & SHERIF, M. Assimilation and contrast effects in reaction to communication and attitude change. *J. Abn. & Soc. Psychol.*, 1957, **55**, 244-252.
10. HOVLAND, C. I., JANIS, I. L., & KELLEY, H. H. Communication and Persuasion. New Haven, Conn.: Yale Univ. Press, 1953.
11. HOVLAND, C. I., LUMSDAINE, A. A., & SHEFFIELD, F. D. Experiments on Mass Communication. Princeton, N. J.: Princeton Univ. Press, 1949.
12. KELMAN, H. C., & HOVLAND, C. I. "Reinstatement" of the communicator in delayed measurement of opinion change. *J. Abn. & Soc. Psychol.*, 1953, **48**, 327-335.
13. MCGARVEY, H. R. Anchoring effects in the absolute judgment of verbal materials. *Arch. Psychol.* (N. Y.), 1943, **39**, No. 281.
14. NEWCOMB, T. M. An approach to the study of communicative acts. *Psychol. Rev.*, 1953, **60**, 393-404.
15. OSGOOD, C. E., & TANNENBAUM, P. The principle of congruity and the prediction of attitude change. *Psychol. Rev.*, 1955, **62**, 42-55.
16. SIMS, V. M. Factors influencing attitude toward TVA. *J. Abn. & Soc. Psychol.*, 1938, **33**, 34-56.
17. WEISS, W. The relationship between judgments of a communicator's position and extent of opinion change. *J. Abn. & Soc. Psychol.*, 1958, **56**, 382-384.
18. ZIMBARDO, P. G. Involvement and communication discrepancy as determinants of opinion conformity. *J. Abn. & Soc. Psychol.*, 1960, **60**, 86-94.

State School and Hospital
Faribault, Minnesota

The Journal of Social Psychology, 1964, 64, 77-87.

A STUDY OF RELIGIOUS CONFLICT IN COLLEGE STUDENTS*

University Health Service, University of Massachusetts

JOSEPH HAVENS

A. INTRODUCTION

Since Starbuck's classic study of the phenomena of religious experience (4), few significant investigations of adolescent religious changes have appeared. One exception was the extensive postwar study of religion among Harvard and Radcliffe students (1). By questionnaire survey, these authors investigated the felt need for religion, the influence of religious upbringing, and the changes in belief and practice which accompany the college experience. In their discussion of religious conflict, they noted that nearly half of the students felt considerable conflict between religion and science, and that there was a gap for many students between their conventional religious practice and their unconventional beliefs. In some students there was an inconsistency between a professed belief in God and a rejection of all things supernatural. In a recent volume by Sanford (3) on the development of college students, Webster, Freedman, and Heist conclude that "religious crises, or disillusionments, with consequent value changes . . . are actually fairly common in college students today" (p. 826). This is asserted on the basis of studies of decreasing need for religious faith rather than of research on religious conflict as such. Thus the central question of the present study is as follows: What percentage of students on the Carleton College campus experience conflict over religious matters, to what degree, and at what point in their college experience? Subsidiary questions concerned the nature of their beliefs and the kinds of conflicts which they experienced. Carleton is a Midwestern liberal arts college of high academic standards; it is traditionally Protestant, supports an active ministry to students and requires a minimal "exposure to the Judeo-Christian tradition," but is no longer church-related.

B. METHOD

In 1959 and 1962 the investigator prepared and administered to a sample of students two forms of an "Inventory on Religion." After some preliminary

* Received in the Editorial Office on December 7, 1962. Copyright, 1964, by The Journal Press.

queries dealing with church attendance and prayer, the following three questions explicitly related to conflict were asked: (*a*) To what extent if any do you feel differences or contradictions between religious and nonreligious attitudes or ways of thinking and behaving? (*b*) In what realm or area (beliefs, behavior, picture of self) do these differences or contradictions occur? (*c*) What degree of dissatisfaction or uncomfortableness about these matters (e.g., an inner tension with regard to religious or moral attitudes, a dissatisfaction with one's present faith or behavior, an inner conflict between two ways of thinking) best describes your present state?

Four alternative choices, ranging from "no differences or contradictions" to "definitely irreconcilable differences or contradictions," were allowed on the first question. The four choices offered on question (*b*) included the three mentioned—ideas, concepts, beliefs; behaviour; picture or idea of yourself—and a fourth headed "fill in your own answer." On this question, students were allowed to check more than one alternative if they numbered their choices. The four alternatives to the third question ranged from "no dissatisfaction or uncomfortableness" to "considerable amount of dissatisfaction or uncomfortableness (i.e., which is sometimes distressing or disturbing, and/or which sometimes significantly interferes with my usual life activities)."

Another section of the Inventory consisted of a 25-item "Religious Concepts Scale" developed by Milton D. McLean of the Ohio State University.[1] This scale attempts to assess the degree of religious orthodoxy or liberalism within a Christian context. On the basis of autobiographical statements correlated with test scores, McLean makes three broad divisions in the 100-point scale and describes them briefly in the following terms. Zero to 35 is designated as the range of "naturalistic humanism"; here the language of traditional Jewish and Christian belief is rejected; when "God" is responded to favorably, the term refers to man's ideals and references to the supernatural are rejected. Most subjects in the middle third of the scale (35 to 65) consider themselves religious liberals; the meaning of God ranges from abstract principles such as "universal law" to "God as he is revealed in the life and teachings of Jesus." Subjects in the upper third of the scale (65 to 100) are nearly always members of Christian churches; they may be designated "orthodox," particularly with reference to the Trinity and the Incarnation.

The above constituted the inventory used in 1959. In 1962 a version of

[1] This scale was originally developed in 1939 and has gone through a careful scaling analysis and several revisions. It relies essentially on face validity, but has been validated to some extent against autobiographical statements and church membership of respondents. See Milton D. McLean, "Inventory of Social and Religious Concepts," American Council on Education, 1950, 1952, and 1954.

Osgood's Semantic Differential (2) was added. It requested the subject to rate each of 10 concepts—God; Science; Me; Man as Creative; The Image of Man as a Sinner Before God; Jesus Christ, Son of God; Man as a Biological Organism; Liberal Religion; Interracial Marriage; and the Church—over 10 adjectival scales or sets of polar terms. The scales used here were high-low, constrained-free, progressive-regressive, meaningless-meaningful, active-passive, unfriendly-friendly, strong-weak, reputable-disreputable, complex-simple, good-bad; each scale ranged over seven equal intervals from one pole to the other. Each concept was scored on an evaluative dimension (six scales) and on a dynamic or potency-activity dimension (four scales) for each subject. Thus it was possible to compare the average rating of any particular concept for freshmen or seniors as a group, as well as the clustering of particular concepts for any individual subject.

In February, 1959, the first form in the inventory (i.e., not including the semantic differential) was distributed through campus mail to a 20 per cent random-number sample of each of the four classes; names were not requested. Returns ranged from 88 per cent to 94 per cent of the sample (total N of 188). The enlarged inventory was distributed to the same-size sample of freshmen and seniors in February, 1962; here the returns were 82 per cent and 83 per cent respectively (total N of 101).

C. Results

1. *General Findings*

a. About 12 per cent of this student population at any given time are experiencing serious conflict over religious problems. A fundamental assumption of this study was that a respondent who reported "dissatisfaction or uncomfortableness" over "perceived differences or contradictions" was experiencing religious conflict,[2] and the word will be used in that sense in the following discussion. (In composing the test items, the word "conflict" was avoided, except in one instance in an explanatory paragraph, because of its psychopathological connotations.) The alternative indicating "serious conflict" was worded, "dissatisfaction or uncomfortableness which is sometimes distressing or disturbing, and/or which sometimes significantly interferes with usual life activities." On the "uncomfortableness" question, 12 per cent of the respond-

[2] It is not intended that religious conflict, at least on the experiential level, should be considered in a category wholly separate from other kinds of conflicts. In his counseling, the writer has encountered a number of students with religious difficulties who also had problems in other areas; it was by no means clear to what extent religious conflict was a cause or an effect relative to these other problems.

ents of both studies checked this alternative. The two middle categories of "small" or "moderate" uncomfortableness were most frequently checked (see Table 1).

TABLE 1
AMOUNT OF UNCOMFORTABLENESS ABOUT PERCEIVED RELIGIOUS-NONRELIGIOUS DIFFERENCES
(Figures shown are percentages of each class sample)

Alternative	Freshmen 1959 ($N = 68$)	Freshmen 1962 ($N = 62$)	Sophomores 1959 ($N = 45$)	Juniors 1959 ($N = 39$)	Seniors 1959 ($N = 36$)	Seniors 1962 ($N = 39$)
No dissatisfaction or uncomfortableness, or no perceived differences ..	18%	26%	20%	23%	14%	13%
Small amount (not interfering with composure or usual activities)	41	29	40	36	44	33
Moderate amount (sometimes distracts from other things or affects composure or usual activities)	26	30	31	36	25	46
Considerable amount (sometimes distressing or disturbing, and/or interfering with usual activities)	15	15	9	5	17	8

The "dissatisfaction and uncomfortableness" item had only face validity. The questionnaires of the 1962 study, which included the semantic differential, were subjected to an analysis using multiple criteria to determine the validity of responses on this single item. Confirmatory indicators of serious conflict were (*a*) a very low evaluation and/or inconsistency of responses on the concept Me, and (*b*) a low certainty score on the McLean scale. Indicators of defensiveness, such as extremely high evaluation of concept Me, an unusually low range of evaluative scores among the 10 concepts, and a high number of midpoint (neutral) responses,[3] were also used to assess the face validity assumption. The changes in percentage of "serious conflict" questionnaires called for by the use of multiple criteria were 4 per cent (upward) for freshmen and 3 per cent (downward) for seniors. This analysis also distinguished the following categories: Intellectual or philosophical-rational conflict, mild "deeper-level" conflict, and suppressed or latent conflict.

[3] The defensiveness suggested by a highly favorable evaluation of all concepts and by the very frequent use of the neutral response is discussed in Osgood *et al.*, p. 235 and p. 229 respectively.

b. Juniors and seniors tend to experience conflict at deeper levels than do freshmen and sophomores. The data from the "levels of conflict" question (Table 2) of both studies were combined in a four-celled table. The freshmen-class responses were grouped with those of the sophomores, and the juniors with the seniors; and the behavioral and self-image alternatives were combined

TABLE 2

AREAS IN WHICH PERCEIVED RELIGIOUS-NONRELIGIOUS DIFFERENCES WERE EXPERIENCED

Figures shown are percentages of total weighted responses, by classes. A first-choice response was weighted three, a second-choice two, and a third-choice one.

Area	Freshmen 1959	Freshmen 1962	Sopho-mores 1959	Juniors 1959	Seniors 1959	Seniors 1962
Ideas, concepts, beliefs (e.g., Man as "biological organism" *vs.* Man as "spiritual being")	59%	48%	63%	43%	48%	40%
Behavior (e.g., attending church, drinking)	23	22	23	32	21	31
Picture or idea of oneself (e.g., is one more a "faithful Christian," or more an "independent thinker"?)	18	30	14	25	31	29

and contrasted with intellectual alternative. (The response to each of these three alternatives was weighted according to whether it was a single choice, or the first, second, or third choice of a multiple response.) The differences among the four cells were significant beyond the .005 level, the freshmen-sophomore group opting more heavily than the other group for the intellectual alternative. Conclusion two is also evidenced by the fact that a statistically-significant predominance of intellectual choices over behavioral and self-image choices is found for the freshmen class and for the sophomore class, but for neither of the higher classes. The significance level for the freshmen and for the sophomore classes, by chi square, is beyond .01.

c. The theological changes of the college years are more accurately seen as a movement from orthodox belief toward theological liberalism than as an espousal of atheism. On the McLean scale, there was a drop in the average score from 52.0 as freshmen (close to the score of the average Congregationalist by national norms) to 38.2 as seniors (close to score of theistic Unitarians) in the first study. In the second, the difference was 10 points, between 50.5 for freshmen and 40.5 for seniors. If the results of the two studies are combined, and the questionnaires divided into three groups—"nonreligious," "liberal," and "orthodox"—we obtain the results shown in Table 3. By chi-square analysis the trend toward greater numbers of "liberal" students and toward fewer "orthodox" students is significant beyond the .02 level, but the slight increase in the number of "nonreligious" students is not.

In this categorization also, the use of a single measure—the McLean score—was verified by the use of multiple criteria, drawn particularly from the semantic differential. Out of the 101 inventories of the second study, 12 were placed in categories different from the one dictated by the McLean score. The shifts in categorization were in both directions, however, and almost no change in the percentages in each cell was demanded; hence we may assume the figures in Table 3 are essentially correct.

TABLE 3
THEOLOGICAL STANCE OF STUDENTS, ON BASIS OF MCLEAN SCORE
(Figures shown are percentages of each class sample)

Theological position	Freshmen 1959 ($N = 68$)	Freshmen 1962 ($N = 62$)	Sophomores 1959 ($N = 45$)	Juniors 1959 ($N = 39$)	Seniors 1959 ($N = 36$)	Seniors 1962 ($N = 39$)
Nonreligious (under 35)	24%	32%	25%	31%	36%	36%
Liberal (35 to 65)	29	26	40	43	53	46
Orthodox (over 65)	28	37	22	13	3	15
Unclassifiable ("certainty score" under 60)	19	5	13	13	8	3

This conclusion was unexpectedly supported by another finding. It had been the investigator's prediction that the evaluation of religious concepts on the semantic differential would show a decline between freshmen and senior years similar to that indicated on the McLean scale. The prediction was not fulfilled. Of the two concepts that, it had been predicted, would be most sensitive to the theological shifts (Jesus Christ, Son of God; and Church), neither changed significantly. The evaluation of the concept Christ rose from 5.50 to 5.53, and that of the Church declined from 5.20 to 5.07. On the activity-potency dimensions of the concept Christ, the rating for seniors was .19 points higher than for freshmen. The concept God declined from 5.78 to 5.58, again nonsignificantly. (The average evaluative score over all 10 concepts and all subjects was 5.08.) This finding requires discussion.

d. Theologically liberal freshmen students perceive greater differences between religious and nonreligious attitudes and ways of behaving than do "orthodox" freshmen. When the average scores on the "perceived differences" question of "liberal" freshmen (both studies) were contrasted with the average for "orthodox" freshmen, these means were significantly different by *t* test at the .005 level of confidence.[4]

[4] This finding is confirmed in a study entitled "Social Correlates of Orthodoxy in Belief" (mimeographed), by W. Seward Salisbury of the New York State Teachers College, Oswego, New York. On the basis of a questionnaire study of 1,552 students,

e. Among freshmen, a smaller proportion of "orthodox" and "nonreligious" students experience conflict over religious matters than the proportion among "liberal" students. Among seniors, this smaller proportion holds only for the "nonreligious" students. An analysis was made of the 1962 study to determine which theological position(s) proved least vulnerable to conflict. The questionnaires of the freshmen and of the seniors were sorted in a four-celled table. The columns were headed 1) "deeper-level conflict" and 2) "intellectual conflict" and "no conflict," and the rows were captioned 1) "nonreligious" and "orthodox" students and 2) "liberal" students. An analysis of these tables made by chi square yielded no significant differences in the case of seniors and significance at the .05 level for freshmen. However, if the first row for seniors contained only the "nonreligious" questionnaires, and the second all other categories, a chi-square analysis yielded significances beyond .05. Among the seniors, six out of the seven questionnaires in the "no conflict" category were from "nonreligious" students.

2. *Types of Conflict*

Each of the following four *types of conflicts* was mentioned by comment on at least three of the questionnaires:

a. The conflict between reason or logical thought and feelings or intuition. A freshman writes: ". . . although I have a basically religious temperament, I feel that when I am religious, that is a 'mood' and objectively, rationally, I find it impossible to make the 'leap of faith' . . . . It seems that the only way I can answer these questions [e.g., "God" on the semantic differential] is in terms of my emotional intuitive feelings—the feelings I have that 'there must be a God. There must be a meaning. Life is good. Men are basically good.' "

b. The desire or longing for a satisfying set of religious beliefs, or for a meaningful faith. (In certain cases, this is an instance of the reason *vs.* feelings conflict.) A freshman girl comments: "I am not sure yet what my real religious belief is. However, as time goes by just the need for some belief is growing stronger." A senior writes, "I don't believe I ever really had a faith in anything that was satisfactory, and my present practice, which is mainly a lack of faith in anything, is certainly not satisfactory either."

c. The conflict between the truth one inwardly believes or has thought out for himself, and his outward behavior. One perceptive student contrasts the conclusions at which he has arrived at college by "rational thought" with the

---

Salisbury concluded that orthodox students find greater compatibility and less conflict between science and religion than do the theologically liberal.

"inbred ideas and behavior" which he brought with him from his earlier training. "I am most inconsistent," he goes on to say, "in following out painfully arrived-at logical conclusions. I tend to want to keep cake and eat it too." (In a pilot study obtained from a Lutheran college, seven out of a sample of 100 students commented directly or indirectly on the related conflict between profession and inward doubts. One student wrote that he found it "difficult to differentiate between what I thought and what I thought I should feel as a Christian. . . .")

d. Uncomfortableness based mostly on anticipation of difficulties or conflicts which may arise in the future. Sometimes this is pointed to directly, as in the statement of a junior, "I haven't changed my beliefs so much, but doubts have been injected." But occasionally it is unmistakably revealed just beneath the surface; in the following comment the student apparently is able to recognize the contradictions in others' views but not in his own: " I am often considerably disturbed or distressed, which usually takes the form of some kind of depression, but not because of contradictions within my own faith, I believe. Rather, I am depressed . . . when I hear other people expound on a particularly contradictory moral or religious doctrine."

D. Discussion

Why is it that religious-value conflicts at the behavioral and self-image level become more numerous in the latter two years of college (conclusion two)? There are apparently four interrelated factors at work here; the evidence for them is drawn partly from an analysis of comments and particular configurations on the questionnaires, and partly from the investigator's counseling data. The first is that the implications of "the life of the mind," especially the critical-rationalist attitude, become apparent to the student only gradually; and even more gradually do serious doubts about one's core religious beliefs filter down to the deeper levels of the person. A sophomore writes: "I think I question more, but (my faith and/or practice) hasn't changed yet." A similar statement can be made about college peer-group influences: usually it is in the junior and senior years that the college norms decisively take over from parental, hometown, or high-school peer-group determinants. The third factor has to do with the attitudinal changes as the end of college approaches; seniors become suddenly sober, and seem less *playfully* intellectual than before. As the student faces existential choice and responsibility in vocation and marriage partner, he may become less purely speculative in his religious thinking and try seriously to find some solid standing ground for the life-in-earnest toward which he moves. A corollary of this, perhaps a fourth factor, is the

tendency for juniors and seniors to try to tie together, or to bring into unity, their many-faceted lives (again partly a result of the demand for consistency and rationality in the intellectual enterprise).

Weighty evidence of the tendency to rigidity and defenses against deeper-level change among freshmen and of the occurrence of such change among upperclassmen can be found in *The American College* (3).

In interpreting the discrepancy between the results yielded by the McLean scale and by the semantic differential (reported under conclusion three), it should be noted that the instructions to the subject in the differential ask him to make his judgments about the concepts "on the basis of what these things mean *to you*." On a number of the questionnaires, students very helpfully pointed out that their evaluations of certain concepts were based on their own revised or liberalized understanding of the meaning of the concepts. A senior, whose McLean score was 12, but for whom God and Christ were the two most highly rated concepts, commented, "I probably wasn't very consistent. It depended a lot on how I was defining terms at the second I answered the question." Another theologically liberal student with a very high valuation of Jesus Christ, Son of God, explicitly noted, "As for the man, the X's apply. I don't believe the Son of God part." Another extremely liberal freshman with ratings of 7.00 on both the evaluative and the activity-potency dimensions of God describes her thinking as follows: "I dislike the word 'God' because it seems to me that *this word* has become so stereotyped that *it is almost meaningless*. The first thing that this word calls to my mind is the 'super father on a big throne in heaven surrounded by angels' idea that I had when I was a little girl. However, I do believe in some fundamental underlying power."

Apparently one factor in the discrepancy was the fact that the McLean test forced the acceptance or rejection of traditional theological formulations and did not allow a wide range of personal interpretations, as did the differential. A second factor was the tendency for the responses of students to reflect the generally high valuation of religion and its symbols in our culture, even though these symbols may have lost personal meaning for them. Where students interiorized the favorable cultural attitudes toward the traditional symbols of Judaism and Christianity, the pressures toward the avoidance of "cognitive dissonance" apparently impelled them to reinterpret such concepts as Jesus Christ and God in a positive way. (One "nonreligious" student informed the investigator that she interpreted the phrase "Jesus Christ" on the differential to mean "the prototype of Man.") The discrepancy may have arisen in part from the fact that some students who have ceased to be concerned with religious matters may react to the concepts on the differential on

the basis of early conditioning, though they may be unable to assent to the doctrinal statements on the McLean scale. One senior, for whom the concept "Christ" was scored highest (6.50) among all his ratings, writes: "Certain questions, notably those regarding 'Jesus Christ, Son of God' and 'Man as Creative,' have been colored by my training . . . because of my Christian Science background. . . . I would not take any of my decisions as definitive or a well thought out position. My contact with religion has been negligible since the age of 13, and I have not thought a great deal about it except in the ethical area. . . ." It is likely that, besides reflecting the cultural ethos and the tendency of subjects to respond on the basis of early conditioning, the high valuation of religious concepts stems in part from another source—namely, the continuing need of college students to find some kind of meaningful answers to the questions raised by religion. In just this connection, a conversation with students about this study revealed the very different connotations of the term "religion" as contrasted with the word "religious." Two students who would fall into the "nonreligious" category, as we have defined it above, denied interest in "religion"—to them the word implied required church attendance and the trappings of institutional religion. They affirmed their genuine interest, however, in the "religious" questions of the existence of God, the basis of morality, and the nature of man.

In summary, we might say that the McLean scale makes clear the reinterpretation of religious concepts which is taking place among students, while the differential is sensitive to the persisting high general evaluation placed on them.

The greater proclivity of "liberal" students to perceive religious-nonreligious differences (conclusion four) can be explained by the tendency for "orthodox" students either to deny that their religious views conflict with what they are learning from other quarters, or to reconcile them so that the differences are minimal. "Liberal" students, on the other hand, are likely to have arrived at their positions as a result of facing the differences which they believe to exist and, even though they may have achieved a partial reconciliation, they will be less prone to deny the existence of such contradictions. Some may need to continue to assert such differences as a support for a rebellious liberalism.

Conclusion five states that "liberal" students experience more conflict than "nonreligious" or, in the case of freshmen, "orthodox" students. One explanation which immediately presents itself is that liberal and neoorthodox students are "in transition" from one theological anchorage to another, and hence are very much aware of the conflicts and struggles involved in these changes. The complement to this is that the more extreme views are more stable. Some non-

religious students, for whatever reason, have apparently been able to dismiss "the religious question" from their lives and to find whatever meaning and support they need from other quarters. Some theological conservatives—apparently more freshmen than seniors—may find their particular form of orthodoxy nurtured within a church which provides both social and intellectual support and satisfactions (e.g., Roman Catholicism, some forms of Lutheranism). It is also probable, since challenges to almost any religious convictions are likely in an intellectually vital and doctrinally-free college community, that repression or suppression of conflict-anxiety accounts for a few of the "no uncomfortableness" questionnaires.

E. Summary

The present investigation attempted by means of two questionnaire studies of a college population to assess the extent and the degree of religious conflict among college students, and to obtain information about the content of these conflicts. It was estimated that 12 per cent of the student population have serious conflict over religion at any given time, and that juniors and seniors tend to experience such conflict at deeper levels (i.e., related to behavior and/or self-concept) than do freshmen and sophomores. Students who are nonreligious suffer less conflict than do either theological liberals or orthodox. The religious changes in most students can be accounted for by a liberalization of belief rather than by a radical devaluation or rejection of religion questions. Types of problems included the conflict between reason and feeling, the unsatisfied longing for an acceptable faith-position, the inconsistency of behavior and belief, and the uncomfortableness based on an anticipation of difficulties expected to arise in the future.

References

1. Allport, G. W., Gillespie, J. M., & Young, J. Religion of the postwar college student. *J. of Psychol.*, 1948, **25**, 3-33.
2. Osgood, C. E., Suci, G. J., & Tannenbaum, P. H. The Measurement of Meaning. Urbana: Univ. Illinois Press, 1957.
3. Sanford, N., *Ed.* The American College. New York: Wiley, 1962.
4. Starbuck, E. D. The Psychology of Religion. New York: Scribners, 1899.

University Health Service
University of Massachusetts
Amherst, Massachusetts

The Journal of Social Psychology, 1964, **64**, 89-100.

PERCEPTUAL INTERPRETATION OF THE SOCIAL DIAD: II. CHARACTER OF RELATIONSHIP* [1]

Psychological Laboratory, Wesleyan University

ROBERT H. KNAPP

A. INTRODUCTION

In a previous article published in this journal (1) we have reported an experiment dealing with the interpretation of diadic silhouettes; i.e., silhouettes depicting a young male and a young female figure in profile. In that article we indicated how variations in the postural relationship of these two figures were related to the ascribed acceptance of each figure by the other. The present report deals with the attribution of more specific types of interpersonal relationship. We have sought in this instance to devise a category of propositions regarding the relationship of the two people which would encompass the most basic varieties of human, social transactions. This inquiry seeks to explore the language of postural relations which has long been implicit in the art of the theater, but never a formalized doctrine in the psychology of perception.

B. METHOD AND PROCEDURE

The subjects used in this experiment consisted of three groups: 60 primary- and secondary-school teachers enrolled in summer school, 33 student nurses at the local state hospital, and 80 National Science Foundation high-school summer-fellowship awardees at Wesleyan University. The Diadic Profile Test was administered to the subjects in small groups ranging from 33 downwards. Each subject was paid a nominal fee for his services.

The construction and administration of the Diadic Profile Test may be described as follows. The test itself consists of a series of black-and-white silhouettes showing two figures, one a young man and the other a young girl, facing each other. Their positions with respect to each other are, however, varied according to a systematic pattern. Thus, there are three elevation patterns; namely, a pattern in which the female is higher than the male (I), a pattern in which they both are equal in elevation (II), and a pattern in

* Received in the Editorial Office on December 10, 1962. Copyright, 1964, by The Journal Press.

[1] The research reported here was supported by the National Institutes of Mental Health under Contract M-2178 to Wesleyan University.

which the male is conspicuously higher than the female (III). In addition to these three elevation patterns, each figure is permitted to rotate in such a fashion that it may occupy four positions as follows: (*a*) a 10° backward rotation, (*b*) a normal upright position, (*c*) a rotation forward of 10°, and (*d*) a rotation forward of 20°. We have, accordingly, four rotation positions for each figure and three elevation patterns. All permutations and combinations of these were constructed, yielding 48 diadic profile pictures portraying these two young people.

These silhouettes, by means of prepared slides, were presented in random order to the subjects, who were asked to identify the nature of the interpersonal exchange prevailing between the two figures. A catalog of 16 propositions was constituted in the following fashion. First, the subject specified the initiator of the exchange as the male or the female figure. Next, he indicated the character of the act; i.e., telling, asking, offering, commanding. Following this, the subjects were invited to indicate the character of the response by the remaining person; i.e., listening or not, granting or not, accepting or not, or complying or not. It will be appreciated that with two possible instigators, four possible acts, and two qualities of response, we emerge with a catalog of 16 propositions. Our subjects were required to assign one of these 16 propositions to each of the 48 diadic silhouettes.

It will be recognized that our total population of subjects comprises a somewhat heterogeneous group, varying with respect to sex, age, and occupation. Elsewhere we shall report the nature of differential responses from these groups. Here, however, we are concerned primarily with the report of consensus in judgment insofar as this illuminates the language of postural attitudes.

C. Results

For the purposes of this article, the results may be shown in a series of tables in each of which the percentage of responses is indicated. For purposes of simplicity we have combined, in all cases, the backward and upward positions and again the two forward positions to yield a 2×2 table for each elevation pattern. Thus, for each of our transactional descriptions, we will present three 2×2 tables showing the manner in which different elevation patterns and rotational postures of the silhouettes are selected for each proposition. It should be observed at the outset that our subjects do not employ each of our transactional propositions with the same degree of frequency.

Table 1 shows the number of times that each of our propositions is invoked. It will be observed that the "telling-listening" relationship, whether initiated

by the male or the female, is employed with a very high frequency. On the other hand, the use of the category "telling and not listening"—especially when the male is the initiator—is particularly rare. The percentages reported in the following tables are, of course, based upon the varying number of responses assigned to each of our propositions as listed above.

TABLE 1
FREQUENCY AND PERCENTAGES WITH WHICH THE 16 PROPOSITIONS WERE INVOKED BY ALL SUBJECTS
($N = 8304$)

Proposition	Number	Percentage
He is telling; she is listening.	876	10.5
He is telling; she is not listening.	279	3.4
He is asking; she is granting.	632	7.6
He is asking; she is refusing.	486	5.9
He is offering; she is accepting.	546	6.6
He is offering; she is refusing.	341	4.1
He is commanding; she is complying.	676	8.2
He is commanding; she is refusing.	613	7.4
She is telling; he is listening.	876	10.5
She is telling; he is not listening.	365	4.4
She is asking; he is granting.	522	6.3
She is asking; he is refusing.	588	7.1
She is offering; he is accepting.	420	5.1
She is offering; he is refusing.	324	3.9
She is commanding; he is complying.	358	4.3
She is commanding; he is refusing.	450	5.4

We shall review the descriptive categories, or propositions, beginning with the eight in which the male is the initiator, and present them successively in terms of telling, asking, offering, and commanding, with the positive and negative responses to each. Thereafter, we shall present the eight propositions in which the female is the initiator, following the same design.

1. *Male Is Initiator*

a. He is telling; she is listening (*Table 2*). The striking characteristic associated with this proposition is the equal or superior elevation of the male figure, and, in particular, the forward rotation of his head. This is manifest in both elevations 2 and 3. Beyond this, we may observe that this particular description is especially applied to two specific conditions; namely, when the figures are on the same elevation and both heads are rotated forward, and when the male figure is higher while they are in a position of direct confrontation, she looking upward and he downward.

b. He is telling; she is not listening (*Table 3*). In contrast with the

preceding, this particular descriptive category is most commonly applied to situations in which the female figure has higher elevation, and very strikingly to those conditions in which her head is upward or backward in rotation. Almost never is this descriptive pattern applied to conditions in which she is in superior elevation but rotated forward.

TABLE 2
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "HE IS TELLING; SHE IS LISTENING"
($N = 173$)

		Elevation I			Elevation II			Elevation III	
		He			He			He	
		BU	FF		BU	FF		BU	FF
She	BU	5.4	5.8	She	10.4	8.5	She	9.7	15.0
	FF	4.1	4.8		2.4	15.0		6.7	12.1
		20.1%			36.3%			43.6%	

Note: The reader is reminded (for Tables 2-17) that in elevation pattern I the female is higher than the male, in elevation pattern II the two figures are equal in height, and in elevation pattern III the male is higher than the female. With respect to the rotation of the head, we have combined the figures for the backward and upright positions in one column or row and those for the two forward positions in the other column or row. The labels are BU and FF, respectively.

TABLE 3
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "HE IS TELLING; SHE IS NOT LISTENING"
($N = 173$)

		Elevation I			Elevation II			Elevation III	
		He			He			He	
		BU	FF		BU	FF		BU	FF
She	BU	24.0	13.6	She	16.1	10.0	She	4.3	7.5
	FF	.7	.7		4.0	6.0		6.0	6.8
		39.0%			36.1%			24.7%	

c. He is asking; she is granting (*Table 4*). The elevation pattern here is of small significance, and the assignment of this proposition to our range of diadic silhouettes shows, in the second and the third elevation positions, the importance of the forward rotation of the male figure. Conversely, the male backward rotation in these elevations is rarely ascribed to their description. In the first elevation position, however, in which the female figure is higher, it is more common for the male figure to be in an upward or backward rotation as though in a suppliant address. Probably the most general rule is that the

two figures are self-confronting with the male avoiding, except in the first elevation, an upward or backward rotation.

d. He is asking; she is refusing (*Table 5*). It is clear that primary importance must be attached here to the superior elevation of the female. Only rarely is this descriptive category used when the male is of higher elevation. Further, it is very clear that this proposition is invoked only when the female figure in the first elevation pattern has her head rotated backward or upright.

TABLE 4
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "HE IS ASKING; SHE IS GRANTING"
($N = 173$)

		Elevation I			Elevation II			Elevation III	
		He			He			He	
		BU	FF		BU	FF		BU	FF
She	BU	8.8	5.8	She	2.0	10.3	She	3.0	10.3
	FF	13.4	8.4		3.8	14.8		4.7	14.4
		36.5%			31.0%			32.4%	

TABLE 5
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "HE IS ASKING; SHE IS REFUSING"
($N = 173$)

		Elevation I			Elevation II			Elevation III	
		He			He			He	
		BU	FF		BU	FF		BU	FF
She	BU	27.3	25.3	She	8.2	10.9	She	1.6	6.1
	FF	3.5	2.6		2.0	3.0		1.8	7.2
		58.8%			24.2%			16.8%	

It is possible in this instance to establish a very clear and identifiable pattern for the circumstances in which this descriptive category is invoked.

e. He is offering; she is accepting (*Table 6*). Elevation pattern here is of small importance, while it is clear that the essential requirement is that both figures be rotated in a forward position. In particular, this applies to the male figure when he is in superior elevation.

f. He is offering; she is refusing (*Table 7*). Elevation pattern is here of overwhelming importance, such that this category is especially employed when the female is in superior elevation and, beyond this, when she is rotated upward or backward. This particular description seems highly specific to this postural relationship.

g. He is commanding; she is complying (*Table 8*). Here again the elevation pattern is of great importance and shows that this proposition is applied especially to diads in which the male figure is in superior elevation. Rotation is apparently of very secondary importance, though it is suggested that in the second elevation pattern he should be rotated in a forward position and she upward or backward. Very rarely is the female figure higher.

h. He is commanding; she is refusing (*Table 9*). It would appear that the essential requirement here is that the figures be at the same elevation. This

TABLE 6
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "HE IS OFFERING; SHE IS ACCEPTING" ($N = 173$)

	Elevation I			Elevation II			Elevation III		
		He			He			He	
		BU	FF		BU	FF		BU	FF
She	BU	6.3	5.5	BU	3.3	8.5	BU	3.3	11.6
	FF	8.6	11.2	FF	2.3	15.8	FF	5.3	17.8
		31.8%			30.0%			38.1%	

TABLE 7
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "HE IS OFFERING; SHE IS REFUSING" ($N = 173$)

	Elevation I			Elevation II			Elevation III		
		He			He			He	
		BU	FF		BU	FF		BU	FF
She	BU	27.0	27.0	BU	10.0	8.2	BU	2.0	5.0
	FF	3.2	3.5	FF	.8	1.1	FF	4.1	8.0
		60.7%			20.2%			19.0%	

TABLE 8
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "HE IS COMMANDING; SHE IS COMPLYING" ($N = 173$)

	Elevation I			Elevation II			Elevation III		
		He			He			He	
		BU	FF		BU	FF		BU	FF
She	BU	1.7	2.8	BU	4.6	12.4	BU	16.6	17.3
	FF	.3	0.9	FF	5.6	3.0	FF	16.7	15.0
		5.8%			28.7%			65.5%	

seems appropriate considering that a contest of wills is implied. This particular category is especially invoked when the male figure is rotated forward and the female figure is rotated backward. This generalization applies not only to the second elevation pattern, but to the first and third as well.

TABLE 9
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "HE IS COMMANDING; SHE IS REFUSING" ($N = 173$)

Elevation I				Elevation II				Elevation III			
		He				He				He	
		BU	FF			BU	FF			BU	FF
She	BU	6.5	11.4	She	BU	16.1	27.5	She	BU	8.9	14.7
	FF	0.5	.0		FF	1.8	4.3		FF	3.5	4.8
		18.2%				49.7%				31.9%	

2. *Female Is Initiator*

The response categories involving female initiation will be presented following the same general order as those for the male.

a. She is telling; he is listening (*Table 10*). It is clear from the table that the superior elevation of the female figure is particularly important here,

TABLE 10
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "SHE IS TELLING; HE IS LISTENING" ($N = 173$)

Elevation I				Elevation II				Elevation III			
		He				He				He	
		BU	FF			BU	FF			BU	FF
She	BU	6.1	6.2	She	BU	8.2	5.8	She	BU	4.4	3.5
	FF	19.8	14.8		FF	6.5	13.3		FF	4.5	4.4
		49.0%				35.9%				17.0%	

and, further, that she be rotated in a forward position. This category is only rarely applied when the male figure is in superior elevation.

b. She is telling; he is not listening (*Table 11*). Elevation pattern is not apparently important here, though it does appear that the male figure, especially in the second and the third elevation patterns, is most frequently rotated upward or backward.

c. She is asking; he is granting (*Table 12*). It is suggestive but not incisive in the attribution of this proposition that the female figure be higher than

the male figure, and, given this condition, that she be in a forward rotation. If the male figure be higher in elevation, it is suggested that he should be in forward rotation. The principle involved seems to be that of mutual confrontation on planes of unequal elevation.

TABLE 11
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "SHE IS TELLING; HE IS NOT LISTENING" ($N = 173$)

	Elevation I			Elevation II			Elevation III		
		He			He			He	
		BU	FF		BU	FF		BU	FF
She	BU	4.1	6.8	BU	13.1	3.0	BU	16.1	2.4
	FF	8.2	9.3	FF	18.0	3.0	FF	14.5	3.8
		28.5%			37.2%			34.2%	

TABLE 12
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "SHE IS ASKING; HE IS GRANTING" ($N = 173$)

	Elevation I			Elevation II			Elevation III		
		He			He			He	
		BU	FF		BU	FF		BU	FF
She	BU	3.6	2.8	BU	4.8	5.1	BU	4.8	9.7
	FF	17.0	17.0	FF	7.4	10.1	FF	6.9	10.0
		40.6%			27.5%			31.8%	

TABLE 13
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "SHE IS ASKING; HE IS REFUSING" ($N = 173$)

	Elevation I			Elevation II			Elevation III		
		He			He			He	
		BU	FF		BU	FF		BU	FF
She	BU	1.7	2.0	BU	9.0	2.2	BU	21.5	5.6
	FF	5.2	5.8	FF	17.1	2.7	FF	24.0	2.9
		16.8%			31.1%			54.0%	

d. She is asking; he is refusing (*Table 13*). This response category is especially applied in those situations where the male figure is of superior elevation and rotated upward or backward. Very rarely is this description invoked when the female is superior in elevation and in upward or backward

rotation. When the figures are on the same plane, it is clear that this response category applies primarily to the condition where he is rotated upward or backward and she forward.

e. She is offering; he is accepting (*Table 14*). The elevation pattern is clearly of some significance here with the greatest number of attributions

TABLE 14
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "SHE IS OFFERING; HE IS ACCEPTING"
($N = 173$)

		Elevation I			Elevation II			Elevation III	
		He			He			He	
		BU	FF		BU	FF		BU	FF
She	BU	4.0	3.5	She	2.6	3.8	She	2.6	4.5
	FF	16.1	19.7		8.8	14.0		5.9	14.0
		43.5%			29.2%			27.1%	

TABLE 15
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "SHE IS OFFERING; HE IS REFUSING"
($N = 173$)

		Elevation I			Elevation II			Elevation III	
		He			He			He	
		BU	FF		BU	FF		BU	FF
She	BU	1.8	2.7	She	6.7	2.7	She	16.3	3.0
	FF	4.0	7.7		25.0	2.7		23.4	3.4
		16.3%			37.3%			45.3%	

assigned to the first elevation. It appears to be particularly important, both here and in the other elevation patterns, that the female figure be rotated forward. This condition applies to a lesser degree to the male figure.

f. She is offering; he is refusing (*Table 15*). The elevation pattern is of prime significance here in that this proposition is rarely ascribed to the diadic silhouette in which the female figure is higher. Conversely, it is most frequently ascribed where the male silhouette is higher. Beyond this, it appears important that the male figure be rotated backward or upward and the female figure forward, at least in the second and the third elevation patterns.

g. She is commanding; he is complying (*Table 16*). It is clear that in this instance the responses are overwhelmingly assigned to the first elevation pattern and very rarely to the third elevation pattern in which the male figure is higher. The rotation of the figures is also important. In the first

elevation pattern it appears that both figures should be rotated forward, whereas in the second elevation pattern the female figure is rotated forward and the male figure back or up.

h. She is commanding; he is refusing (*Table 17*). It is the striking feature of responses to this proposition that they are concentrated in the second elevation pattern, and especially in response to those silhouettes in which the

TABLE 16
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "SHE IS COMMANDING; HE IS COMPLYING" ($N = 173$)

		Elevation I			Elevation II			Elevation III	
		He			He			He	
		BU	FF		BU	FF		BU	FF
She	BU	12.5	17.3	She	3.6	3.0	She	2.5	1.1
	FF	17.3	23.4		14.5	2.5		1.4	.5
		70.6%			23.7%			5.6%	

TABLE 17
PERCENTAGES ATTRIBUTED TO VARIOUS SILHOUETTE PATTERNS FOR "SHE IS COMMANDING; HE IS REFUSING" ($N = 173$)

		Elevation I			Elevation II			Elevation III	
		He			He			He	
		BU	FF		BU	FF		BU	FF
She	BU	9.3	5.3	She	18.2	2.6	She	12.4	1.3
	FF	8.2	6.2		28.6	1.7		5.7	.0
		29.1%			51.3%			19.5%	

male figure is rotated backward and the female figure forward. Rarely, if ever, is this description applied to diadic silhouettes in which the male figure is higher and rotated in a forward position.

A few obvious generalities can be discerned in the preceding tables. For example, it is clear that the elevation pattern is particularly important in the relations involving command and, that if the command is met with compliance, the initiating person assumes to a conspicuous degree the higher elevation. If the command is met with noncompliance, then there is a concentration of responses to diads in the second elevation pattern, where the two figures are in an equal and competitive plane.

The elevation pattern again is of primary importance in the case of proposi-

tions involving offering and refusal, in which case the refusing person is persistently located in the superior elevation in the diadic silhouettes. In the event that the offer is accepted, however, elevation appears to be of relatively minor significance, while it becomes particularly important that the offering person be rotated in a forward position.

When we consider those propositions associated with asking, we find again that elevation is of primary significance when this is followed by refusal, such that the refusing person is in a higher elevation that the petitioning person. When asking is met with compliance, however, elevation is not a central feature, but it appears important that the petitioning figure be rotated in a forward position. This generality has to be somewhat qualified by the interaction effects with elevation pattern.

Propositions involving telling, which are among our most numerous descriptions, show a clear tendency for the initiator to be at higher elevation while the rotational pattern indicates that they are in confrontive postures. Those silhouettes which are commonly ascribed to the proposition that a person is not listening reveal that the nonlistening party is very commonly in an upright or backward rotation, while the elevation pattern appears to be of small significance.

D. Discussion

In the foregoing we have presented some materials bearing upon the "language of postural relations," a subject almost entirely neglected in the literature on human communication. That this language exists and is implicitly comprehended is surely confirmed by the consensus which is accorded the interpretation of the stimuli described in this article. Were not our terminology already overburdened with special terms, we would be tempted to coin still another word; namely, mimeology, or the study of mimic postures. Certainly the results which we present here represent merely an experimental confirmation of certain ancient wisdoms and practices known to the theater throughout all ages of human civilization.

While the articulation of this special language of postural interpretation, especially as it applies to human diads, is of intrinsic significance to the social psychologist, our final interest is in individual interpretations of these stimuli. Elsewhere we shall seek to present information relating idiosyncrasy of interpretation to other personality measures and shall demonstrate that different groups and classes of subjects ascribe different patterns of interpretation to the same stimuli.

E. Summary

In order to study the "language of postural relations," a series of 48 diadic silhouettes was constructed in which each figure (a young male and a young female) was rotated through four degrees on the frontal plane, while three elevation patterns were incorporated. Each of these 48 diadic silhouettes was attributed to a catalog of 16 interpretative propositions. In half of these the male was the initiator; in half, the female. In a quarter each, the transactional act was telling, asking, offering, or commanding. In half, again, the response was affirmative; in half, negative. It proved possible to demonstrate that the 16 propositions were attributed to the 48 silhouettes in very different proportions and that, for each proposition, the pattern of the silhouettes most and least likely to elicit the proposition could be clearly identified. In addition some more comprehensive generalizations are suggested. That there is a well-understood, but unformalized, language of postural relations seems clearly sustained by the consensus of our subjects' responses.

Reference

1. Knapp, R. H. Perceptual interpretation of the social diad: I. Judgments of acceptance. *J. Soc. Psychol.*, 1964, **63**, 169-177.

Psychological Laboratory
Wesleyan University
Middletown, Connecticut

The Journal of Social Psychology, 1964, **64**, 101-111.

PATRIOTISM AND MILITARY DISCIPLINE AS A FUNCTION OF DEGREE OF MILITARY TRAINING*

Northwestern University

ROBERT W. GAGE

A. PURPOSE

Following the Korean war, a report by Meyer (5) focused much attention upon the behavior of our military personnel in Communist Chinese POW Camps. The main subject of this report, the collaboration of some United States service men with the Communists, which was apparently brought about by new and effective Communist "brainwashing" techniques, caused much alarm. And indeed, there was just cause for alarm; some of the factors considered by the report to be important to the cause of collaboration were deficient knowledge of democratic institutions, lack of patriotism, and lack of understanding and acceptance of military discipline.

It is the latter two factors with which the present study is concerned. With an eye to future situations, possibly similar to those encountered in Korea, it investigates the extent to which military training develops patriotism and acceptance of military discipline in the young men *now* undergoing basic training. How well do they understand the necessity and the nature of a flawless military discipline? To what degree and in what respect are their patriotic views affected during this time?

At the end of a minimum period of seventeen years, before men enter the military, they have already formed patriotic views and views toward military discipline. It is necessary to acknowledge the importance of views developed during the formative years of childhood in a civilian environment, to gain an accurate picture of the recruit's stage of development when the military must begin to train him. One would expect that men from a highly patriotic and militant civilian populace would become more patriotic and would come to accept military discipline more thoroughly than men from a relatively unpatriotic or unmilitary populace. The latter might react little or possibly negatively. It is important, then, that this study investigate the degree to which patriotism and acceptance of military discipline have developed during civilian life, previous to entering the Armed Services, as well as to what

* Received in the Editorial Office on December 21, 1962. Copyright, 1964, by The Journal Press.

degree military training causes these previously civilian groups to alter their attitudes in the basic-training period. Accordingly, the levels of patriotic sentiment and acceptance of military discipline in various civilian groups, relative to similar military groups, will be compared.

With regard to the effect of the experimental variable, degree of military training, two hypotheses are advanced.

1. With additional military training, military personnel will develop increased patriotic sentiment (because of an augmented awareness of one's country, contrasted to other countries, and the ultimate sacrifice military service may demand).

2. Disciplinary procedures will be increasingly accepted with additional training (because these procedures are increasingly understood as being necessary to teamwork, upon which a serviceman's life may often depend).

Concerning civilian and military differences, it is hypothesized that military personnel, placed in the more immediate position of defending their country, will (*a*) exhibit higher acceptance of military discipline, and (*b*) greater patriotic sentiment than civilian counterparts.

B. Method

1. *Subjects*

Subjects from four separate populations, two military and two civilian, participated in the present study. One of the military populations sampled was the Naval recruit population ($N = 160$); the recruits, as they went through nine weeks of basic training, were treated as experimental subjects. A group of male high-school seniors ($N = 62$) was used as a control group. Since this group was very similar to the recruit group (in age, education, sex) and basically differed only in exposure to military training, its use as a control group was possible. It was also used as a civilian comparison group with the recruit group. Subjects from the second military population, NROTC cadets ($N = 145$), were treated as a comparison group, being compared with a group of male college students ($N = 30$) having the same mean age and coming from the same school as did the cadets.

2. *Apparatus*

The experimenter wrote two attitude questionnaires for the study, one to measure patriotic sentiment and the other to measure acceptance of military discipline. Some of the items used in the questionnaires were adopted from previously constructed questionnaires (e.g., 3, 6) and others were written by

the experimenter. The Likert method (4) was used to score the questionnaires.

The patriotism scale was intended to measure two broad facets of patriotism; namely; love of country, and the ethnocentric preference for one's country (ingroup) as opposed to other countries (outgroups).[1] It was composed of 52 items, worded positively and negatively in equal number; also, negative and positive statements of varying degrees were selected in an effort to represent both the extreme negative–slightly negative and the extreme positive–slightly positive attitude continuums. The scale had a split-half reliability (Spearman-Brown corrected) of .93. The following are sample items.

1. D d a A When I see the flag of the United States flying, I have a definite feeling of pride which prompts me to proclaim that I'm an American.

2. D d a A The United States' military strength is the only factor which contributes to the respect of its international wishes.

The discipline scale was constructed to measure understanding and acceptance of military discipline in prison camp, battle, and peacetime situations. It contained 38 items, both positively and negatively worded (in varying degrees) again in equal number, and had a split-half reliability (Spearman-Brown corrected) of .89. Sample items are:

1. D d a A The product of discipline is teamwork, which must be maintained at all costs.

2. D d a A Officers enjoy disciplining enlisted men because it makes them feel superior.

3. *Procedure*

After reading standard instructions, printed on the questionnaire form, all subjects completed the patriotism and discipline questionnaires. A combination of three quasi-experimental designs, presented and discussed by Campbell and Stanley (2) was devised in an effort to obtain the most sophisticated experimental design possible. The final design incorporated many of the advantages of each of three experimental designs: the "institutional cycle design," the "nonequivalent control-group design," and the "separate sample pretest-posttest control-group design." One half of each of two groups of recruits, one with no military training ($N = 45$) and the other with 4.5 weeks of training ($N = 40$), completed the questionnaires first. Then, 4.5 weeks later, when the same groups had 4.5 and nine weeks of training respec-

[1] Adorno (1) discusses the ethnocentricism of groups and its relevance to patriotism.

tively, the other half of each group ($N = 40$ and $N = 38$) completed the questionnaires. Since the first-tested group was not given the questionnaires a second time, the effect of familiarity upon scores (from taking the questionnaires a second time) was avoided.

High-school seniors (the control group) were given the questionnaires in the same manner; i.e., one half of the group first ($N = 32$), and the other half second ($N = 30$). Random numbers were used to divide all groups. The first half of the control group completed the questionnaires at approximately the same time as the first-tested recruits; also, testing of the second halves of both experimental and control groups was scheduled as simultaneously as possible. In this manner, control over the effects of extraneous variables, which might have interfered with the effect of the experimental variable (degree of military training) was established. For example, if an aggressive international incident aroused patriotic sentiment on a national level during the nine-week recruit-training period, patriotic sentiment would be expected to increase in the control as well as in the experimental group. Then, with the above control structure, the effect of the incident could be differentiated from that of the experimental variable.

NROTC cadets, in all four years of college and NROTC training, were given the questionnaires. In addition, college men, representing each year in college, were given the forms. The college group served as the civilian reference group for later comparison with the cadet group. Testing of these groups was completed within a two-day period.

C. Results

Figure 1 shows mean patriotism scores of recruits as a function of degree of military training. It is apparent that during the first half of the training period, mean recruit scores increased (.65 points). During the second period

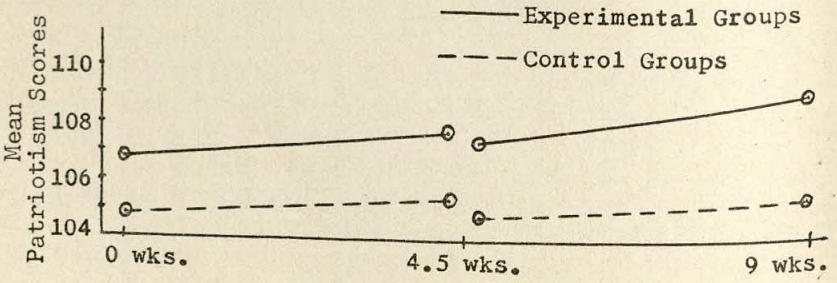

FIGURE 1
Mean Patriotism Scores for Recruits as a Function of Degree of Military Training

of training, mean scores also increased (1.42 points), approximately doubling the increase for the first 4.5 weeks. These results suggest that a positively accelerated curvelinear relationship exists between degree of military training and patriotic sentiment, a fact consonant with and therefore supporting the hypothesis. Since control conditions were maintained, the differences between means of groups in Figure 1 were tested for significance. Results of tests showed that mean differences between control and experimental groups at each 4.5-week interval, and between recruit groups over the two 4.5-week intervals and the nine-week interval, were not significant. Confirmation of the hypothesis for recruits—namely, that with greater degree of military training, patriotic sentiment increases—was not achieved.

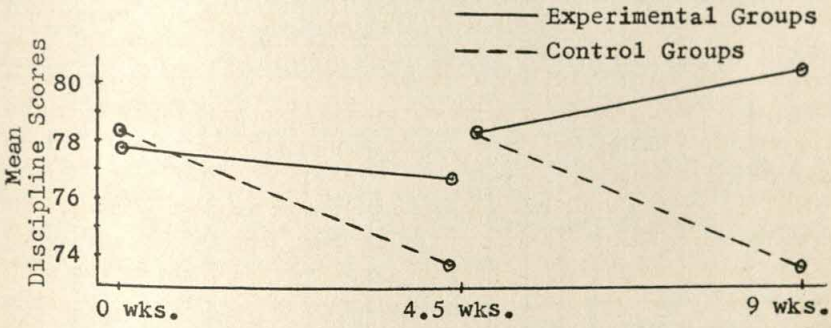

FIGURE 2
MEAN DISCIPLINE SCORES FOR RECRUITS AS A FUNCTION OF DEGREE OF MILITARY TRAINING

Figure 2 shows mean discipline scores for recruits over the nine-week training period. Although mean discipline scores decreased during the first half of training (1.16 points), they increased over the second half of the training period (2.15 points). So, after an initial, apparently negative reaction, acceptance of military discipline increased, a result which supports the hypothesis for discipline. But when tested, mean scores did not satisfy the requirements for statistical significance, and therefore failed to confirm the hypothesis.

Scores of cadets with four years of NROTC training and of recruits with nine weeks of basic training were compared to gain an idea how prospective officers and enlisted men differed regarding patriotic sentiment and acceptance of military discipline. Table 1 shows mean attitude scores of both scales for the recruits and the cadets, and results of tests of mean differences. Prospective enlisted personnel demonstrated somewhat more patriotic sentiment than did prospective officers, but not enough to meet the requirements for statistical significance (Test 1). However, prospective officers exhibited significantly

greater acceptance of military discipline. These results suggest that active-duty officers accept military discipline to a greater degree than do enlisted personnel of the Navy.

TABLE 1
COMPARISON OF MEAN SCORES OF NROTC SENIORS AND NINTH-WEEK RECRUITS

Test	Scale	Group	Mean	*t*	*df*	*p*
1	Patriotism	Fourth-year college Ninth-week recruit	102.86 108.64	1.19	59	$>.05$
2	Discipline	Fourth-year college Ninth-week recruit	88.04 80.42	2.25	59	$<.05$

Figure 3 compares differences between total military and civilian groups for both the patriotism and the discipline scales. But it is necessary to preface the presentation of the results of Figure 3 with a qualifying statement. Differences between civilian and military groups surely are to some degree a result of

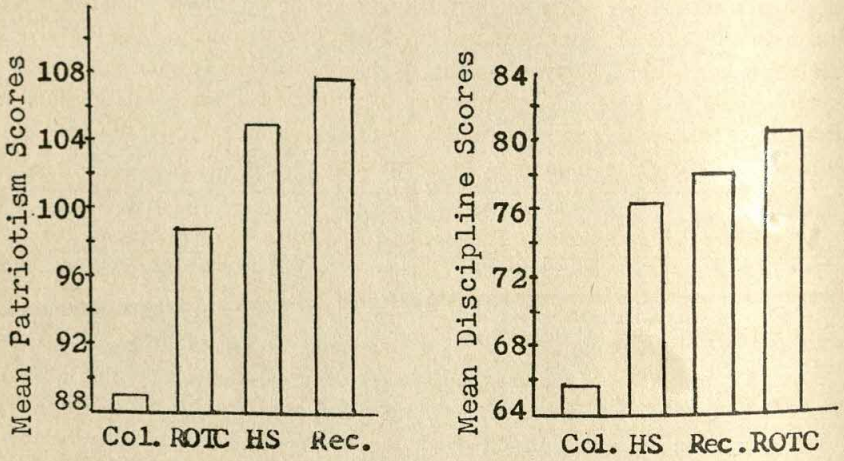

FIGURE 3
MEAN SCORES FOR TOTAL GROUPS

differential recruitment and are not totally due to effects of military training. For example, cadets who volunteered for the NROTC program probably accepted military discipline more fully before they joined the program than did the college students who did not join. To what degree this is true is a subject for the discussion section. It is sufficient here to recognize the possible detriment of this selective and uncontrolled variable to validity of the scale measures.

The combined cadet group showed significantly higher patriotic sentiment

than did the total college group ($t = 3.64$, $p < .01$ at 135 df), but the high-school group did not differ significantly from the total recruit group ($t = 1.09$, $p > .05$ at 218 df). Comparison of mean discipline scores of these same groups gave similar results. The NROTC group showed significantly higher acceptance of military discipline than did the college group ($t = 7.66$, $p < .001$ at 165 df), but the difference between recruit and high-school groups was not significant ($t = 1.40$, $p > .05$ at 221 df). These results demonstrate a definite difference in response between the college and the NROTC groups, regardless of what the interaction of differential recruitment and the experimental variable might have been.

There are also some interesting "patterns" in Figure 3 which do not become apparent with only casual observation. Mean years of formal education for total groups were as follows: college, 14; NROTC, 14; high-school, 12; and recruits, 10.75. Those groups with more formal education made correspondingly lower mean patriotism scores, suggesting that an inverse relationship exists between years of formal education and patriotic sentiment. The negative correlation coefficients (between years of formal education and patriotism scores) shown in Table 2 support this hypothesized inverse relationship.[2] All coefficients show a negative tendency, but only within the NROTC group is the correlation great enough to be significant.

TABLE 2
CORRELATION OF DEGREE OF FORMAL EDUCATION WITH ATTITUDE SCORES

Scale	Group	r	df	p
Patriotism	NROTC	—.39	106	$< .01$
	College	—.04	27	$> .05$
	Recruit	—.04	156	$> .05$
Discipline	NROTC	.15	106	$> .05$
	Recruit	.17	152	$> .05$

Military training appears to have had a strong effect on the mean discipline scores of Figure 3. Both military groups scored higher than their civilian peer groups. Unlike the negative relationship between years of education and patriotism scores (Table 2), within the recruit and the NROTC groups there is a slight positive correlation between discipline scores and years of education. But if years of formal education did have a strong positive effect on scores, then the high-school group, with more formal education, should have scored

[2] Correlational studies of both intelligence and demerits-awarded-during-training with attitude scores—as well as studies of the effect of Boy Scout membership, different religious affiliation, and geographical location of home upon attitude scores—are available on request.

higher than the recruits (Figure 3). Since this was not the case, years of formal education appear to have less positive influence here than they had negative influence on the patriotism scale. Military training appears to exert the stronger influence.

D. Discussion

In general, results of this study have shown that degree of military training influences positively both patriotic sentiment and acceptance of military discipline during the nine-week recruit-training period. Although the effect of degree of military training upon attitude measures was not statistically significant, the positive trend of results precludes the possible existence of a significant negative reaction to the experimental variable; i.e., what was not significantly positive was also not significantly negative. Although this may be somewhat compensating, enumeration of limiting factors is desirable to attempt to answer partially the question of why the effect of military training upon attitude scores was so small.

The length of the basic-training program was a limiting factor. During the brief nine weeks of basic training, the recruit was constantly involved in activity, leaving little time for reflection. Because he had little time to form opinions about his military training, it is likely that his attitudes were in a state of flux when he completed the questionnaires. It is possible that more definitive results could have been obtained by waiting for a period after completion of training before administering the questionnaires. Such waiting periods, of course, would have been difficult to arrange because military-training schedules do not normally permit the necessary waiting period.

It is unlikely that the questionnaires failed to record attitude differences in these groups. The large range of mean scores pictured in Figure 3 shows that the scales were sensitive to differences between total groups. If similar differences were present in recruit groups, they should have been detected.

The marked differences between cadet and college groups, apparent in Figure 3, cannot be considered representative of the effect of cadet training alone. As previously mentioned, those who volunteered for the cadet corps most likely accepted military discipline more fully than did their college counterparts. However, it is significant that those who do prefer association with the military in college (the cadets, who accept military discipline more fully) also exhibit greater patriotic sentiment. Whether higher patriotic sentiment is developed during military training, or whether more patriotic men join the cadet program, was not determined here. But the absolute difference between the civilian and the militarily trained college groups stands in confirmation

to the hypothesis for patriotism—military-discipline attitudes of civilian *versus* military groups (in the cadet-college population).

As the data were presented, a general inverse relationship between years of formal education and patriotic sentiment became apparent. Evidence of this relationship was presented in the patriotism mean scores of Figure 3, in the higher mean patriotism score of recruits (relative to cadets) in Table 1, and in the negative correlation coefficients for patriotism of Table 2. To attempt to reach a conclusion, on the basis of these data, as to why men with more formal education exhibited less patriotic sentiment would not best serve the interests of parsimony. However, these results do provide a point of departure from which a further study, designed wholly for the purpose of investigating the relationship between years of formal education and attitudes—particularly patriotic sentiment—might proceed.

E. Recommendations

Discussion of two points is necessary before recommending a method to increase acceptance of military discipline during training. Since the primary goal of military training is to achieve self-acceptance of military ways, it would be expected that the relationship of degree of military training with acceptance of military discipline would be more direct than that with patriotic sentiment. Indeed, such appears to be the case; cadet mean discipline scores were 14.8 per cent of the scale range higher than college scores (from Figure 3), whereas similar patriotism mean scores were greater by only 5.7 per cent. Secondly, the slightly positive discipline correlations of Table 2 suggest a positive relationship between years of formal education and discipline scores. Admittedly this positive relationship must be involved in the significantly greater acceptance of military discipline of college-educated officer candidates relative to nine-week recruits, shown in Table 1. This positive relationship comes as no surprise, since education fosters development of self-discipline which is not wholly different from military self-discipline. The term "self-discipline," as used here, refers to discipline which the individual was induced to accept, either during military training or during formal schooling. It is restricted to a conforming rather than to a strictly self-selecting sense.

If we keep in mind the direct relationship of military training to discipline, and the apparently positive influence of education, a method to improve acceptance becomes apparent. Adorno (1) has shown experimental evidence that men subjected to a new discipline will respond more rapidly if they are familiar with the reasons for the discipline than if they are not. Conversely,

men rebelled who were subjected to authoritarian discipline. Adorno (1) applies the terms "intellectual discipline" to the former approach and "moral discipline" to the latter. It follows from the results of Adorno's work that if more accent were placed on "why the military does this" rather than on "this is what the military does and what you shall do," better ultimate results would ensue.

In conclusion, it must be stated that much remains to be done before really definitive results can be realized. Many questions remain to be answered. For example, how good an index of resistance to brainwashing is patriotic sentiment or military discipline, and how do results with Naval personnel compare with those of the sister services? Since the near future brings little hope that tensions exerted by the Communist Bloc of Nations will ease greatly, the need for further work to obtain these necessary answers would seem self-evident.

F. Summary

The present experiment was conducted to test hypotheses about the effect of degree of military training upon two attitudes—patriotic sentiment and acceptance of military discipline. The hypotheses were as follows: (*a*) With greater military training, men will become increasingly patriotic because of increased awareness of country and possible military sacrifice. (*b*) Disciplinary procedures will be increasingly accepted with additional training because they are necessary to teamwork, upon which survival often depends. In addition, differences between civilian and military peer groups were investigated.

The attitudes of 160 Naval recruits were recorded, on questionnaires constructed for this study, at various intervals during basic training. In addition, attitudes of 65 high-school seniors were used to provide a control condition and civilian-military comparisons with attitudes of recruits. Also, a group of 145 NROTC cadets and 30 male college students completed the questionnaires. Their scores were used for civilian-military comparisons.

The results supported the first and the second hypotheses, but failed to meet the requirements for statistical significance. However, prospective officers were shown to accept significantly greater military discipline than do prospective enlisted men. In both civilian-military comparisons, NROTC *vs.* college and recruit *vs.* high-school, groups exposed to military training made higher mean scores than did their civilian peer groups. Differential recruitment was considered in reporting these results. Only the NROTC-college differences were significant. Two general trends were observed in the data: (*a*) an inverse relationship between patriotic sentiment and years of formal education, and (*b*) a more direct effect of military training upon acceptance

of military discipline than on patriotic sentiment. There was a suggestive positive relationship between acceptance of military discipline and years of formal education. A recommendation to improve acceptance of military discipline was made.

References

1. Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., & Sanford, R. N. The Authoritarian Personality. New York: Harper, 1950.
2. Campbell, D. T., & Stanley, J. S. Experimental and quasi-experimental designs for research on teaching. In N. L. Gage (Ed.), *Handbook of Research on Teaching*. Chicago: Rand McNally, 1963. Pp. 171-246.
3. Droba, D. D. A Scale for the Measurement of Attitude Toward War. Chicago: Univ. Chicago Press, 1930.
4. Likert, R. A technique for the measurement of attitudes. *Arch. Psychol.*, 1932, **140**, 22.
5. Meyer, W. Repatriation of Korean soldiers. *Chicago Tribune*, 1960 (April 23), Part 1, p. 11 (reprint of speech delivered in 1953).
6. Thiele, M. B., & Thurstone, L. L. A Scale for the Measurement of Attitude Toward Patriotism. Chicago: Univ. Chicago Press, 1931.

5253 Berteau Avenue
Chicago 41, Illinois

The Journal of Social Psychology, 1964, 64, 113-117.

THE INFLUENCE OF EXPERIMENTALLY INDUCED INADEQUACY FEELINGS UPON THE APPRECIATION OF HUMOR*

Department of Psychology, Occidental College

CHARLETA WILLIAMS AND DAVID L. COLE

A. PURPOSE

The purpose of this experiment was to investigate the relevance of a tension-inducing social situation upon an individual's appreciation of humor. Specifically, the experiment investigated the effect of social experiences designed to create a sense of inadequacy upon a subject's perception of humor in jokes depicting the hero behaving inadequately.

It is widely assumed in psychological theory that built-up tension seeks release. The perception and expression of humor in need-relevant areas is often seen as such a release. Freud, in his analyses of humor and wit, saw these as tension reducing, and his theorizing has served as a stimulus for much of the research in this area (1, 5).

Empirical studies of the tension-reduction theory of humor have sometimes involved correlational studies of the relationship of other variables to humor preference (3, 7, 9, 10). Other studies, such as those by Byrne (2) and Strickland (11), have investigated the relationship of experimentally induced sets to humor appreciation. The present study was in the latter tradition, but involved an area not known to have been previously investigated.

Both Byrne and Strickland noted a positive correlation between the presumed existence of an experimentally induced set and humor appreciation in need-relevant areas. They studied the areas of sex arousal and hostility arousal, however, whereas the present study investigated the area of the arousal of a sense of inadequacy. Based on these previous experiments, the hypothesis of the present experiment was that if a person is placed in a situation wherein he is made to feel inadequate, he will subsequently show an increase in his degree of preference for jokes in which the main subject is depicted as inadequate or as in an ego-deflating situation.

* Received in the Editorial Office on December 26, 1962. Copyright, 1964, by The Journal Press.

B. Method and Subjects

Initially it was necessary to develop two lists of jokes, equated as to humor value, depicting the hero in an inadequate light, which could be used as measures of the dependent variable in the experiment. In order to do this, 75 jokes were selected from three sources (4, 6, 8) and presented to 24 psychology majors, who were asked to work independently and to categorize each joke according to whether it did or did not depict the hero in an inadequate or ego-deflating light. Forty-nine jokes were retained, using the criterion that 20 of the 24 subjects had identified the joke as placing the hero in the described role. These 49 jokes were then given to 25 additional psychology majors, who were asked to rate the humor value of each joke along a five-point scale. Again, the judges worked independently. From their ratings it was possible to select two equated lists of 10 jokes each. The humor ratings of these jokes were evenly divided among the five-step intervals given to the raters, so that it was presumed that each set of 10 included jokes of widely varying degrees of humor. These two lists of jokes will hereafter be referred to as Tasks I and III.

The task designed for use in the procedures associated with the independent variable was developed differently. Some "jokes" were formed by combining the introductory lines of one joke with the punch line of another. Others were selected because of the obscure terms involved, or the complex nature of some of the key words. The end products were "jokes" that not only seemed to lack humor, but were difficult to read and understand. These "jokes" were examined by six other judges, who agreed that they met the criteria just described and could not be objectively considered as humorous. This list of nonsense "jokes" will hereafter be referred to as Task II.

Thirty-six subjects, 18 of each sex, participated in the experiment proper. The subjects were volunteers from an introductory psychology class. The total group was divided into four subgroups: two experimental groups of 10 persons each, one control group of 10, and one control group of six subjects. One control group and one experimental group was administered Task I prior to Task III, while the order was reversed for the other two groups. Both experimental groups were confronted with Task II between the administration of the two lists of legitimate jokes.

In order to magnify the impact of Task II on the experimental groups, special procedures were developed. These included the timing of Task II—something not done for either Task I or Task III. A large buzzer was used to dramatize the end of each time period. The subjects were initially allowed

two minutes to study the entire list, and then a series of 45-second intervals to study the "jokes" further. These intervals were interspersed with "discussion," as noted below.

Whereas for Tasks I and III, the examiner presented the joke lists—with the request that each joke be rated for its humor value—and left the room, the examiner remained in the room during Task II. When the buzzer sounded, the examiner would call upon one of the persons in the group to explain aloud why a given "joke" was funny. Unknown to the subjects in these experimental groups, however, the persons called upon were actually "plants," placed in the group by the experimenters. These persons had been notified of the purpose of the experiment in advance, shown the alleged "jokes" used in Task II, and given rational-appearing defenses which they could make in clarifying the humor of a given "joke." Each "plant" was afforded an explanation for a different "joke," and these persons were called on in an apparently random order by the experimenter. No legitimate subject in the experimental groups was called on during this period. Thus it was presumed that the experimental subjects were confronted with the situation of hearing their "peers" present elaborate and seemingly sophisticated explanations of the "humor" in "jokes" they themselves did not understand, while at the same time feeling they might be called upon a moment later to make a similar explanation of some other "joke." Immediately following this experience, the experimental subjects were asked to rate the jokes on the legitimate list they had not previously seen.

C. Results

Fifteen of the 20 experimental subjects gave average ratings to the list, encountered after exposure to the "inadequacy" experience, which were higher than the ratings they gave to the matched list taken first. Five gave lower ratings. Of the 16 control subjects, seven gave higher ratings, six gave lower ratings, and three gave the same average ratings to the second list.

TABLE 1
Analysis of Variance

Source	Sums of squares	*df*	Variance estimate	*F*
Column (Environment)	277.78	1	277.78	7.77
Row (Sex)	.44	1	.44	.01
Within	1144.00	32	35.75	
Interaction	21.78	1	21.78	.60
Total	1444.00	35		

The differences in the raw scores of pre- and postexperimental ratings were corrected to eliminate negative numbers, and, after correcting for unequal N within the cells or subclasses, subjected to a two-way analysis of variance. These results are shown in Table 1. The F test for column effect (environment) was significant at the .01 level. Thus the results of the F test supported the hypothesis of the experiment. The impact of the experience of Task II appears to be associated with a significantly increased tendency to give highest ratings to the jokes depicting the hero in an inadequacy situation. No significant sex differences were found.

D. Discussion

Although the results support the hypothesis, it should be noted that it is not immediately clear whether the results stemmed specifically from the need-relevant nature of the jokes, or from a general tension-reducing property of humor. A more comprehensive study than this one would seek to determine whether an increase in humor appreciation is selective according to the need-relevance of the humorous situation depicted.

Not all studies of humor have produced uniform findings. It appears that this is an area in which a wide variety of measuring devices and stimulus situations have been employed. The possibilities of generalizing over conditions and operations is not yet clear. At the same time, the present study seems to provide general support for the tension-reduction theory of humor and to extend the supporting evidence into a new area of need-arousal.

E. Summary

Subjects who had been placed in an inadequacy-inducing situation were asked to rate jokes showing the central figure in a psychologically similar situation. The ratings of such jokes showed an increase over those of subjects not exposed to the experimental conditions.

References

1. Brill, A. A., *Ed.* The basic writings of Sigmund Freud. New York: Modern Library, 1938.
2. Byrne, D. The relationship between humor and expression of hostility. *J. Abn. & Soc. Psychol.*, 1955, **53**, 84-89.
3. Doris, J., & Fierman, E. Humor and anxiety. *J. Abn. & Soc. Psychol.*, 1956, **53**, 59-62.
4. Droke, M., *Ed.* The Speaker's Treasury of Anecdotes. New York: Grosset & Dunlap, 1948.
5. Freud, S. Humor. *Internat. J. Psychoanal.*, 1928, **9**, 1-6.
6. Moulton, P. 2,500 Jokes for All Occasions. New York: The New Home Library, 1942.

7. MURRAY, H. A. The psychology of humor. *J. Abn. & Soc. Psychol.*, 1934, **29**, 66-81.
8. READER'S DIGEST EDITORS. Fun Fare. New York: Reader's Digest Assoc., 1949.
9. REDLICH, F. C. Intellectual and emotional factors in appreciation of humor. *J. Gen. Psychol.*, 1960, **62**, 25-35.
10. REDLICH, F. C., LEVINE, J., & SOHLER, T. P. A mirth response test: Preliminary report on a psychodiagnostic technique utilizing dynamics of humor. *Amer. J. Orthopsychiat.*, 1951, **21**, 717-734.
11. STRICKLAND, J. F. The effect of motivational arousal on humor preferences. *J. Abn. & Soc. Psychol.*, 1959, **59**, 278-281.

Department of Psychology
Occidental College
Los Angeles 41, California

The Journal of Social Psychology, 1964, 64, 119-130.

THE EFFECT OF DISRUPTION AND INDIVIDUAL STATUS ON PERSON PERCEPTION AND GROUP ATTRACTION* [1]

Postgraduate Center for Psychotherapy, New York City

GERALD SABATH

A. INTRODUCTION

A commonsense assertion is that individuals in high social positions are less accountable for their behavior than persons of lesser status. For the case of continuing small-group relationships in which actions are repeated, this assertion was found to be contrary to statements by Heider (8), Hollander (9), and Thibaut and Kelley (14). These writers note that individuals who, by their nonconformity, obstruct goal attainment in long-term groups tend to lose status and to be accorded decreased preferential treatment. Eventually, group sanctions are applied against them and they may, despite their high initial status, be rejected outright.

Is the commonsense conclusion that high status provides immunity from negative evaluation also incorrect for short-term relationships in which there is less chance for actions to be repeated? The present study examined this problem with small task-oriented groups. By varying status (high and low) and sequences of disruptive behavior (enhances and impedes), it was hoped to demonstrate that, during a brief period, high status does, in fact, tend to provide immunity from unfavorable ratings by others despite inadequate performance. High-status individuals were presented as having special aptitude in an unfamiliar task and also as being generally capable in a broader social setting. Low status was obtained by reference to the stimulus individual's incompetence in the type of task at hand as well as in a broader social sphere. These operations were in accord with Hollander (9) and Thibaut and Kelley (14). It was predicted that individuals designated as having high status would generally be rated more favorably by other group members than would those of low status. This was expected to apply not only to perceived qualities

* Received in the Editorial Office on December 26, 1962. Copyright, 1964, by The Journal Press.

[1] This paper is the major part of a Doctoral dissertation presented at Adelphi College, 1960. The writer thanks Marvin A. Iverson, chairman of the dissertation committee; David Ehrenfreund, and Leon J. Goldberg for their invaluable advice and criticism.

The material was also presented at the APA meetings in New York City, August 31, 1961.

of competence, but also to general personality traits, such as motivation and personal acceptability, as indicated by Hurwitz, Zander, and Hymovitch (10), Thibaut and Riecken (15, 16), Heider (8), Hollander (9), and Thibaut and Kelley (14). Further, the presence of a high-status person was expected to heighten other individuals' satisfaction with their presence and participation in the group.

In a careful analysis of the effect of nonconforming behavior on status, Hollander (9) has indicated that various kinds of "idiosyncratic" behavior can occur. Individual role deviance seemed to be most critical. Failure of a group member to behave according to the group's expectancy would presumably be regarded by other participants as interfering with ongoing activity and jeopardizing goal attainment. The efforts of the group to deal with disruptive individuals has been a subject for a great deal of investigation (2, 3, 5, 6, 7, 13, 16, 17).

An examination of this literature indicated that the concept of disruption could be analyzed further. For example, disruption could be classified as having either positive or negative consequences. Accordingly, two disruptive sequences of behavior were designed. In the first, disruptive activity was followed by behavior which led to a favorable outcome (positive disruption). An individual interrupted the group and redirected its activity from the ongoing and tacitly agreed-upon procedure to an unfamiliar but more efficient one. Since the innovation, although initially disruptive, led to a desired result, the stimulus individual was expected to be viewed favorably by others. It was also predicted that, under these conditions, members' satisfaction with the group experience and attraction to the group would increase. In the second disruptive sequence, the stimulus individual's innovation hindered group achievement (negative disruption). This was expected to have a diverse, negative impact on the group's perception of him and the members' attraction to the group. Support for this contention was contained in work by Festinger and Thibaut (5), Schachter (13), and Jones and deCharms (11).

Whether or not the influences of status and disruption on person perception were additive in their combined effect was undetermined in the literature. Hollander (9) stated that it could be either, depending on other relevant variables. One study (16) of short-term interaction suggested a nonadditive hypothesis since *S*s increased their ratings of acceptance much more when confronted with high- than with low-status persons manifesting the same reactions. In the present study it was predicted that the difference between ratings of high- and low-status individuals would be greater under the condi-

tions of negative rather than positive disruption because of the postulated tendency to discount the misbehavior of high-status persons.

B. Method

1. *Variables*

a. Independent variables. Disruption occurred during a standardized dowel-sorting task. A confederate, unknown to other group members as such, was assigned to hold the dowels and feed them to another member, who was instructed to measure them during the sorting and distribute them according to size to other members. This enabled the confederate to stop the group's work, simply by not feeding the dowels. This was done under two sets of disruptive conditions in which subsequent behavior was varied as follows: (*a*) During disruption followed by behavior that enhanced achievement, the confederate momentarily stopped feeding the dowels as he had been told to do. He then stood all of the dowels on end, thereby automatically sorting them into visibly separate groups.[2] (*b*) During disruption followed by behavior that impeded achievement, the confederate suggested an incorrect solution (which was recognized as such and spontaneously rejected by the naive group members in all cases). He also dropped dowels on the floor and made irrelevant, annoying comments while the group was supposed to work rapidly.

Status was induced primarily during a brief question-and-answer period which took place prior to the sorting task. A standard set of questions was asked of all participants. To establish high status, the confederate reported high academic achievement, high social recognition (good-citizenship award, vice-president of his high-school class), and competence in sorting (not including dowel-sorting) which he had previously done. When low status was induced, the confederate reported low academic achievement, incompetence in sorting, and said he received no honors in high school. The confederates' attire was also varied somewhat in order to be consistent with their status.

b. Dependent variables. (*a*) Person impression ratings: Each member rated the disruptive confederate on qualities of competence, motivation, personal acceptability, resistance, and punitiveness. Various aspects of each of these five qualities were contained in a 25-item list. The items were presented in the form of 10-point continua. *S*s were instructed to check the appropriate point on each continuum. The traits chosen (e.g., intelligent-unintelligent, irritating-pleasant) were those found to be discriminating in a preliminary

[2] This procedure was adapted from a sorting technique that was developed for industrial use during World War II.

study of person perception. (*b*) Group attraction: A series of 10- and 20-step graphic rating scales, similar in appearance to those used for rating person impressions, was used. These ratings included two types of items, one indicating task satisfaction (e.g., enjoyable-unenjoyable, meaningful-meaningless) and another type relating to satisfaction with group membership (e.g., congenial-uncongenial, friendly-hostile).

c. Supplementary measures. (*a*) A criterion measure of status induction was obtained by having *S*s rank one another on various status attributes (e.g., social competence, desirability as a friend) both before and after the dowel-sorting task. (*b*) A preliminary questionnaire obtained information on *S*s' acquaintance prior to the study. In this way, individuals who were known to one another before their meeting in the study were eliminated. (*c*) All team members were ranked on a cooperativeness-disruptiveness continuum at three successive stages during the experimental session. These ratings were done by naive, nonparticipating observers, one of whom was assigned to view and evaluate each group session.

2. *Subjects and Design*

There were 20 groups of five members each in which one individual, either a beginning graduate student or a senior undergraduate, was the confederate who performed the disruptive sequence of behavior. The other four group members were uninstructed *S*s from undergraduate psychology classes. Of the total number of students who were requested to participate, only two refused. All 20 groups were homogeneous for sex; eight were all male and 12 were all female.

Status and disruption were combined in a 2 × 2 factorial design with five repetitions. Each repetition involved a different confederate who participated once in each of the four combinations of status and disruption. The order of conditions performed by each confederate was systematically randomized.

3. *Materials*

There was a set of 10 demonstration dowels, varying in length from 6 to 7 inches, with five pairs—each of the same size and color. Ninety dowels were used for the group task, with 18 dowels each of the following lengths: 10, 11-1/2, 13, 14-1/2, and 16 inches. In this set, dowels of equal length had a variety of colors. A six-inch ruler was supplied to measure individual dowels.

The 10-dowel set provided separate materials for the demonstration part of the group sessions. The fact that these dowels differed in length by only a

quarter-inch and that *E* measured them one at a time during the demonstration helped establish the set that the dowels were to be measured individually. This technique was readily accepted.

The purpose of the matched color pairs in the demonstration set was to permit the disruptive confederate, during sessions in which disruption had negative consequences, to suggest a plausible but actually unworkable solution; namely, that the sorting could be done according to color.

4. *Procedure*

To begin the experimental session, *S*s were seated at a round table in a conference-room setup and were assigned code letters for identification. Unknown to the others, the confederate always took seat C, the center one, and was thus equally visible in all groups. The observer was seated in a corner by himself. All participants filled out Preliminary Information Forms which provided data on prior acquaintance of those present. *E* then selected two members to be the focus of subsequent ratings, one of which members was the confederate. By requiring ratings on two rather than just one individual, *E* hoped to conceal the confederate's presence. (In response to open-ended questions at the end of the session, only four of the 80 naive *S*s indicated any awareness of the confederate's presence.) *E* oriented the group on using ratings to study teamwork and obtained an initial set of impression ratings. This established a base line for *S*s' impressions of the confederate prior to the formal procedures that were used for status induction.

E conducted a round-robin discussion in which all *S*s were asked the same questions (e.g., "In what quarter of your high-school class did you graduate?"). This permitted the confederate to establish his relative status in the group without having to volunteer personal information. At the conclusion of the discussion, *E* quickly summarized the comments of all *S*s in order to facilitate comparison. *E*'s demonstration of the task took place next and was geared to emphasize implicitly the individual measurement of the dowels. Also, *E* stated the necessity for speed in sorting. *S*s then rank-ordered all members for status. The focus of the experimental session was the group sorting task during which the confederate enacted a prescribed disruptive sequence. Finally, impression and status rating scales were readministered, satisfaction ratings were obtained, and *S*s were required to answer a set of open-ended questions probing their awareness of the purposes of the study. For a complete description of the procedure and copies of all of the forms that were used, see Sabath (12).

C. Results

Analysis of variance was applied to three measures: (*a*) changes in impressions of the confederate during the procedure, (*b*) impressions of the confederate at the end of the study, and (*c*) satisfaction ratings at the end of the session. These measures were designated *change ratings, final ratings,* and *satisfaction ratings,* respectively. It seemed that change ratings in contrast with final ratings somewhat underestimated the total effect of the experimental procedures. Apparently this occurred because the small differences in attire had some effect on the base-line ratings of person impressions.

TABLE 1
MEANS, MEDIANS, AND STANDARD DEVIATIONS DERIVED FROM IMPRESSION RATINGS, SATISFACTION RATINGS, AND STATUS RANKINGS

Variable		Experimental condition			
		Low status Disruption impedes	Low status Disruption enhances	High status Disruption impedes	High status Disruption enhances
Total change on impression ratings	*M*	—20.95	15.45	16.85	28.10
	SD	31.11	31.09	23.80	30.25
Final total on impression ratings	*M*	146.85	198.55	204.40	217.25
	SD	39.57	22.93	28.37	17.34
Group satisfaction	*M*	57.10	59.60	61.40	62.75
	SD	8.70	7.30	6.89	6.23
Task satisfaction	*M*	28.65	33.55	31.05	38.35
	SD	12.06	8.90	8.55	7.82
Initial status rank	*Mdn*	5	5	1	1
Final status rank	*Mdn*	5	3	2	1

The hypothesis that a high-status, disruptive individual would be perceived more positively by other *S*s than one with low status was supported (see Table 1) at the .01 level of confidence for all three measures (see Table 2). The contention that *S*s would report more satisfaction with their experience when the confederate had high rather than low status was also verified. Differences given in Table 1 were reliable (.01 p value as given in Table 3). Hypotheses on the main effect of disruption were supported by both the impression and the satisfaction ratings. Significantly more favorable ratings were obtained with disruption followed by enhancement than with disruption followed by impeding activity.

An examination of the means of total impression ratings for combinations of status and disruption indicated, as predicted, that the latter variable had relatively little impact when the disruptive confederate had high status. In contrast, ratings of low-status stimulus individuals seemed to be related to the specific disruptive sequence that was enacted. The statistical interaction was significant at the .01 level of confidence and is presented in Figure 1.

TABLE 2
ANALYSIS OF VARIANCE OF IMPRESSION RATINGS

Source	*df*	*MS*	*F*
Total change of impression ratings			
Status (S)	1	12,726.01	17.62**
Disruption (D)	1	11,352.62	15.72**
Confederate (C)	4	3,557.29	4.93**
S × D	1	3,162.61	4.38*
S × C	4	558.55	
D × C	4	845.71	1.17
S × D × C	4	1,280.95	1.77
Within	60	722.24	
Total	79		
Final total of impression ratings			
Status (S)	1	29,070.31	37.13**
Disruption (D)	1	20,833.52	26.61**
Confederate (C)	4	2,514.64	3.21*
S × D	1	7,546.61	9.64**
S × C	4	294.57	
D × C	4	798.02	1.02
S × D × C	4	634.48	
Within	60	782.85	
Total	79		

* p value of .05.
** p value of .01.

TABLE 3
ANALYSIS OF VARIANCE OF SATISFACTION RATINGS

Source	*df*	*MS*	*F*
Status (S)	1	1,073.11	6.75*
Disruption (D)	1	1,288.02	8.10**
Confederate (C)	4	329.83	2.07
S × D	1	7.81	
S × C	4	440.56	2.77*
D × C	4	60.33	
S × D × C	4	47.24	
Within	60	159.02	
Total	79		

* p value of .05.
** p value of .01.

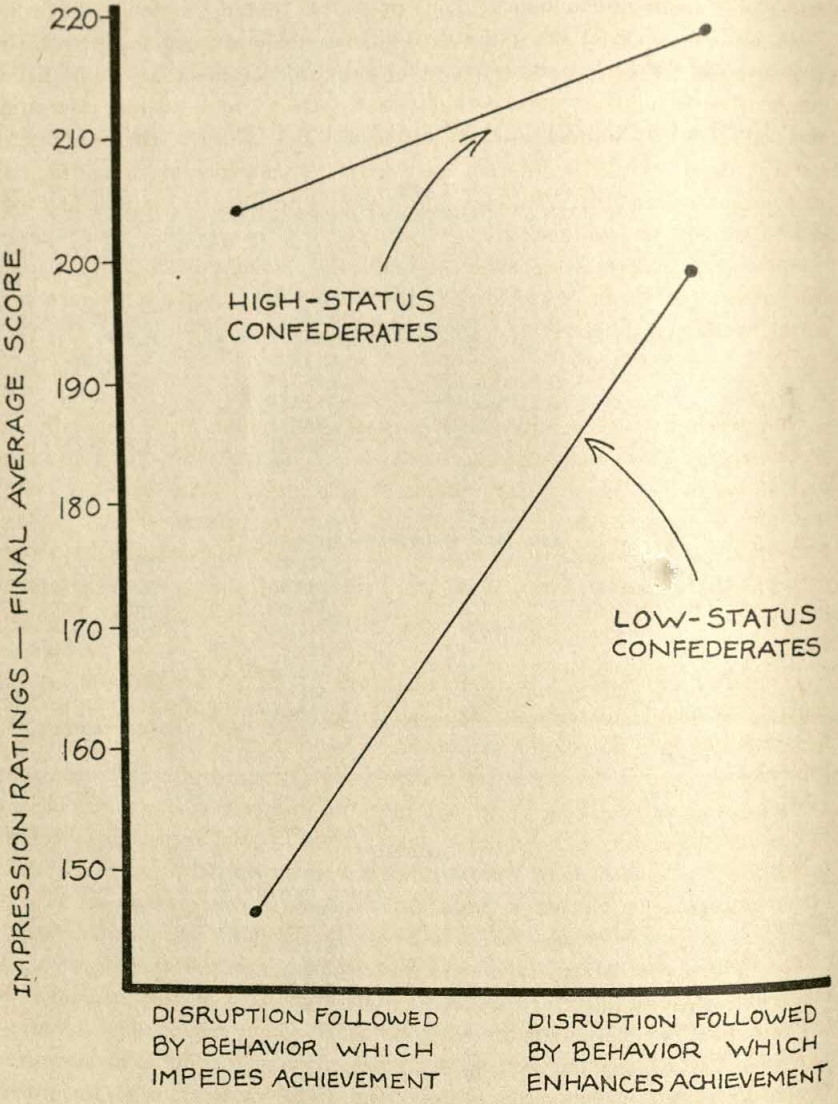

FIGURE 1
THE INTERACTION OF STATUS AND DISRUPTION BASED ON FINAL IMPRESSION RATINGS

However, the interaction of these variables that was expected for satisfaction ratings did not occur.

Ratings provided by the naive outside observers indicated that the difference between the disruptive sequences of the confederates was readily distinguishable by individuals who were not participating group members (p value obtained from a chi-square test was less than .001). Also, *Ss*' before-and-after status rankings of the confederate were generally, as expected, in accord with the conditions presented. Median values are given in Table 1, and median tests yielded p values of less than .01.

Additional analyses were made of impression ratings on clusters of items pertaining to particular personality traits. These were, for the most part, consistent with overall ratings and are reported in Sabath (12).

D. Discussion

Group members' perceptions of high-status individuals were generally favorable regardless of their disruptive behavior. Thus, the main hypothesis that high status makes one less accountable for his actions than does low status was consistent with the results obtained from the present short-term, experimental relationship. Also, the data seemed consistent with Feshbach's report (4) that behavior which is regarded as nonconforming when performed by low-status persons is not necessarily viewed as such when done by high-status persons.

This interpretation was further supported by the before-and-after status rankings assigned to confederates. Changes in status did not occur for the high-status–negative-disruption condition, but rather in the low-status–enhancement category. In the latter instance, a tendency to elevate subsequent rankings was noted. This increment in attributed status was not sufficient to obscure the significance of the status variable in final measures of person perception and satisfaction. Status ratings were generally more stable than person impressions. Moreover, ratings of high-status confederates were generally less subject to change than those recorded for low-status confederates.

The finding that confederates with initially high status retained high ranking despite their negative disruption was understandable in view of Hollander's concept (9) of idiosyncratic behavior and Thibaut and Kelley's observation (14, Ch. 6) that events which are perceived as fortuitous do not alter comparison levels in evaluating status. High-status members who performed poorly were probably perceived as having an "off day." This explanation seemed pertinent, especially because the experimental period was brief.

In further accordance with Thibaut and Kelley's rationale (14), the low-

status individual who enhanced attainment would be perceived as having "a stroke of luck" and his status should not have changed. The fact that it often did increase suggested that the actual behavior of the low-status confederate carried significant weight in the eyes of his fellow teammates. The actual behavior of initially low-status confederates, whether it was constructive or destructive, seemed to have more impact on both impression ratings and final status rankings.

It seemed, therefore, that high status tended to provide a degree of immunity from various—perhaps many—judgments on the part of others. The proposition that *S*s would discount behavior that was antithetical to group goals, if the behavior was that of high-status individuals, is apparently only one aspect of the range of immunities from the judgments of others that is possessed by high-status persons. That this is so is consistent with the overall pattern of data that was obtained: the comparatively increased stability of all ratings (both status and impression) of high-status participants and the comparatively increased fluctuation of all ratings of low-status teammates.

Precisely what immunities to others' judgments are characteristic of high-status persons remains to be investigated. It would also remain to be determined what the effects of various situations are on this immunity, as well as the effects of other specific conditions, such as the period of time that elapses during interaction, the number of participants who are involved, etc.

As a corollary, the degree of change in personal impressions would be a function of, among other factors, initial-status level. The higher one's status at the outset, the lower would be the anticipated amount of change during interaction.

Reports of level of satisfaction of group members have been used to indicate the degree of cohesiveness (1). In this sense, the presence of a high-status member induced greater group cohesion than that of a low-status confederate. Also, disruption followed by enhancement contributed more to cohesiveness than did nonconstructive disruption.

The finding that the combined effects of status and disruption were additive with respect to ratings of satisfaction was seen as primarily related to this specific study and the circumstances that obtained therein. Since groups met for a brief period and performed a relatively unimportant task, their involvement with either the group or the task was thereby limited. Under other circumstances, interactional effects would perhaps be increasedly probable. It is suggested that this might be most likely to occur in a situation where the group itself is recognized for its prestige.

E. Summary

Twenty five-member groups participated in a discussion and a dowel-sorting task. There was a member in each group who, by prearrangement, presented himself during the discussion as having either high or low status. During the sorting, he performed disruptive behavior followed by other activity that either enhanced or impeded group functioning.

Subjects' ratings indicated that high status provides greater latitude for disruptive behavior than low status and leads to greater group satisfaction and group cohesion. In the short-term relationship that took place, groups viewed high-status confederates in a generally favorable manner regardless of their behavior, whereas low-status members were regarded favorably only when their performance enhanced group functioning. Low-status participants, moreover, were viewed relatively unfavorably when they hindered goal attainment.

It was reasoned that high status has a tendency, at least during short-term interaction, to make one generally more immune from the judgments of others than does low status.

References

1. Back, K. W. Influence through social communication. *J. Abn. & Soc. Psychol.*, 1951, **46**, 9-23.
2. Blake, R. R., Helson, H., & Mouton, J. S. The generality of conformity behavior as a function of factual anchorage, difficulty of task, and amount of social pressure. *J. Personal.*, 1957, **25**, 294-305.
3. Emerson, R. M. Deviation and rejection: An experimental replication. *Amer. Sociol. Rev.*, 1954, **19**, 688-693.
4. Feshbach, N. D. The non-conformity of high status individuals: An experimental investigation. *Dissertation Abst.*, 1956, **16**, 1489.
5. Festinger, L., & Thibaut, J. Interpersonal communication in small groups. *J. Abn. & Soc. Psychol.*, 1951, **46**, 92-99.
6. Festinger, L., Gerard, H. B., Hymovitch, G., Kelley, H. H., & Raven, B. The influence process in the presence of extreme deviates. *Hum. Relat.*, 1952, **5**, 327-346.
7. Gerard, H. B. The effect of different dimensions of disagreement on the communication process in small groups. *Hum. Relat.*, 1953, **6**, 249-271.
8. Heider, F. The Psychology of Interpersonal Relations. New York: Wiley, 1958. Pp. 322.
9. Hollander, E. P. Conformity, status, and idiosyncratic credit. *Psychol. Rev.*, 1958, **65**, 117-127.
10. Hurwitz, J. I., Zander, A. F., & Hymovitch, B. Some effects of power on the relations among group members. In D. Cartwright & A. F. Zander (Eds.), *Group Dynamics: Research and Theory*. Evanston, Ill.: Row, Peterson, 1953. Pp. 483-492.
11. Jones, E. E., & deCharms, R. Changes in social perception as a function of the personal relevance of behavior. *Sociometry*, 1957, **20**, 75-85.

12. SABATH, G. The effect of disruption and status on person perception and satisfaction. Unpublished Doctoral dissertation, Adelphi College, Garden City, New York, 1960. Pp. 94.

13. SCHACHTER, S. Deviation, rejection, and communication. *J. Abn. & Soc. Psychol.*, 1951, **46**, 190-207.

14. THIBAUT, J. W., & KELLEY, H. H. The Social Psychology of Groups. New York: Wiley, 1959. Pp. 313.

15. THIBAUT, J. W., & RIECKEN, H. W. Authoritarianism, status and the communication of aggression. *Hum. Relat.*, 1955, **8**, 95-120.

16. ———. Some determinants and consequences of the perception of social causality. *J. Personal.*, 1955, **24**, 113-133.

17. THIBAUT, J. W., & STRICKLAND, L. H. Psychological set and conformity. *J. Personal.*, 1956, **25**, 115-129.

175 East 80th Street
New York 21, New York

The Journal of Social Psychology, 1964, **64**, 131-135.

UNWILLINGNESS TO ATTRIBUTE RESPONSIBILITY*

Department of Psychology, University of Florida

JACK M. WRIGHT

A. INTRODUCTION

In the empirical studies of—and theories of—attribution of responsibility (1, 2, 3), an important dimension which has been neglected is unwillingness to make attribution. Attribution of responsibility is the perception of one or more persons as the agent or agents initiating or maintaining a social interaction. Unwillingness to attribute responsibility is akin to impunitiveness in the aggression models and may underlie this latter behavior. Theoretically, all persons may be considered to form causal impressions of their social environment. However, persons may differ in the propensity to conceive their social relations causally, and in the degree to which they are willing to manifest these concepts overtly.

It is to be expected that the general inhibiting effect of punishment upon behavior would manifest itself in responsibility attribution also. Beyond this reinforcement factor, differential responses would be expected in interactions with persons possessing different social characteristics. For example, persons may be more willing to attribute responsibility to authority figures, as the appropriate bearers of responsibility in the social group, than to other figures. Finally, such personality characteristics as self-acceptance and functional rigidity may be expected to produce differences in willingness to attribute. Persons who are more self-acceptant than other persons may be more capable of "calling a spade a spade" and placing responsibility where they feel it belongs, or they may feel less necessity to attribute responsibility at all. Persons who are functionally rigid may be less capable than other persons of changing their original perception of responsibility in the face of contradictory information and become unwilling to attribute at all.

The purpose of the present experiment was to explore unwillingness to attribute responsibility in terms of situational, personality, and reinforcement variables which might be expected to give rise to such behavior. Eight simulated dyadic interactions were used as stimulus materials. The personality variables studied were self-acceptance (SA), degree of psychological adjustment (schizophrenic *vs.* normal), degree of functional rigidity, and tendency

* Received in the Editorial Office on December 28, 1962. Copyright, 1964, by The Journal Press.

to hold negative expectations for the outcome of the interactions. Situational variables studied included the sex relation (same *vs.* opposite sexed), the status relation (adult-child *vs.* adult-adult) in the dyads, and the outcome of the interaction (whether positive or negative for the person with whom *Ss* were to identify). No hypotheses were entertained, except the implied hypotheses that these variables were important in determining unwillingness to attribute responsibility.

B. Method

1. *Subjects and Procedure*

Thirty schizophrenic patients and 30 nursing aides, all male volunteers, were selected from the existing populations at a V.A. hospital and were divided into praise and criticism treatment groups. These groups were matched on the basis of age, education, ethnic origin, and (for patients) specific diagnosis.

Ss were administered two forced-normal Q-sorts, then caused to pass three of six, or six of six, trials on the WAIS block-design test. *Ss* were criticised or praised on the basis of this performance. The Social Interaction Series, a set of outline drawings creating the effects of silhouettes, was then administered. The series consists of eight sequences involving four dyads (a man and a woman, a boy and a woman, a boy and a man, and two men). Each dyad is depicted in two interactions, one of which ends positively and the other negatively. *Ss* were shown the first picture of each sequence, which is identical for the positive and the negative sequence of each dyad. They were asked to state what was happening in these four pictures, who was involved, and how they (the *Ss*) expected the interaction to turn out. The purpose of this line of questioning was to obtain their expectations, to establish their story line, and to correct any misimpression they might have had with regard to sex or status relations in the dyads.

Ss were then shown the eight sequences, consisting of four pictures each. *Ss* were asked upon the presentation of each picture in the sequence: "Now what seems to be happening, from this person's point of view? Who do you think this person feels is responsible for what has happened here?" The purpose of phrasing the questions in this manner was to establish identification with the person being acted upon in the sequence.

2. *Variables*

a. Self-acceptance. This personality characteristic was measured by correlating the Self Q-sort (how *Ss* felt they were most of the time) with the

Best Self Q-sort (how *S*s felt they were when at their very best), and using the transformed z' score.

b. Negative expectations. This pessimism variable was the number of times in the four pictures beginning the sequences that *S*s stated the situation was bad, unhappy, unpleasant, sad, etc.

c. Functional rigidity. Because there is a positive and a negative outcome for each dyad, *S*s had to be wrong four times (once for each dyad) whether their expectation for the outcome of any given interaction was positive or negative. Functional rigidity was measured as the point in the series of four pictures at which *S*s changed their perceptions, when their expectations were wrong.

Sex relationship, status relationship, and outcome were features of the stimulus materials.

d. Unwillingness to attribute responsibility. This dependent variable was the number of times in eight trials that *S*s refused to attribute responsibility to one or the other of the two persons in the dyad.

C. Results

A Friedman two-way analysis of variance was used to analyze unwillingness, with the eight sequences used as the trials dimension. The results were significant ($p < .05$). Schizophrenics under criticism were most unwilling, and all *S*s under praise were more willing to attribute responsibility than were other *S*s. *S*s were most willing to attribute responsibility to authorities (adult-child sequences) and to females, and were least willing to attribute to peers and males. The outcome of the interactions was unimportant in the results of this analysis.

To determine how these unwilling *S*s saw the social interactions, a Kruskal-Wallis analysis was computed, dividing *S*s into those with two-or-more *vs.* those with one-or-no negative expectations. The results were significant ($p < .05$). Examination of the rank means indicated that *S*s with more negative expectations than other *S*s had were most willing to attribute responsibility.

A Friedman analysis was computed to determine the relation of treatment and self-acceptance to negative expectations. The results were highly significant ($p < .01$). The medium self-acceptant *S*s held the highest number of negative expectations when they had been praised, and the lowest number under criticism. With regard to trials, expectations were more frequently negative for the outcome of the boy-man interaction, and the man-woman interaction was least often expected to end negatively.

When another Kruskal-Wallis analysis was computed to investigate the relation of diagnosis to negative expectations, the results were again highly significant ($p < .01$). Patients under criticism had the fewest negative expectations (less than 10 per cent) and normals under praise had the greatest number (approximately 50 per cent). Further, 28 out of 30 normals expected the interaction with the female peer to end positively, while 25 of 30 schizophrenics expected the peer-female interaction to end negatively.

D. Discussion and Summary

Schizophrenics who had been criticized, and *S*s with medium self-acceptance who had been criticized, stated the fewest negative expectations. These were also the *S*s who were most unwilling to designate a responsible agent. Normals who were praised, and *S*s possessing a medium degree of self-acceptance who were praised, stated the highest number of negative expectations. These were also the *S*s who were most willing to designate a responsible agent. Overall, the effects of criticism for a previous performance seem to have been to suppress the tendency to attribute responsibility and to suppress the expression of negative expectations regarding the outcome of the interactions.

*S*s were more willing to attribute responsibility to authorities and females, and less willing to attribute to peers and males. *S*s were also most willing to attribute when they held the most negative expectations for the outcomes of the interactions. The nature of the outcome itself (whether positive or negative for the stimulus person with whom *S*s identified) was unimportant in the determination of unwillingness to attribute. This last finding may be due to the simulated nature of the interactions, in which less ego involvement may be expected than in actual interactions. This interpretation is lent support by the outcome of the experimental interaction, in which praise and punishment had maximum effect on unwillingness to attribute.

This study has effectively demonstrated a differential willingness to attribute responsibility as a function of situational, personality, and treatment variables. The question of how unwillingness to attribute may influence the results of studies of responsibility attribution requires further research. More research is also required to clarify the finding that male *S*s are most willing to attribute responsibility to females. Is this a valid finding for both sexes, or are the two sexes most willing to attribute responsibility to members of the opposite sex?

References

1. Heider, F. Social perception and phenomenal causality. In R. Tagiuri and L. Petrullo (Eds.), *Person Perception and Interpersonal Behavior*. Stanford, Calif.: Stanford Univ. Press, 1958.

2. PEPITONE, A. Attributions of causality, social attitudes, and cognitive matching processes. In R. Tagiuri & L. Petrullo (Eds.), *Person Perception and Interpersonal Behavior*. Stanford, Calif.: Stanford Univ. Press, 1958.
3. PIAGET, J. The Child's Concept of Causality. New York: Harcourt, Brace, 1930.

Department of Psychology
University of Florida
Gainesville, Florida

The Journal of Social Psychology, 1964, **64**, 137-145.

A CROSS-VALIDATION OF THE MARLOWE-CROWNE SOCIAL DESIRABILITY SCALE ITEMS*[1]

Department of Psychology, University of Rochester

MARVIN R. GOLDFRIED

A. INTRODUCTION

As an outgrowth of the increasing popularity of objective personality inventories, a great deal of research effort has been applied to the investigation of response sets. A particular area of interest is the tendency of some people to respond in a socially desirable manner. Edwards (7), in an attempt to assess the extent to which *S*s' responses reflect the social-desirability variable, has devised a Social Desirability (SD) scale based on MMPI items. The Edwards SD scale recently has been criticized by Crowne and Marlowe (4) on the grounds that it is confounded by the possibility that *S*s' responses to the items also reflect the presence or absence of psychopathology. Thus, if someone answers "false" to the item "I frequently notice my hand shakes when I try to do something," he may do so because he does not manifest this particular symptom *or* because he has the more general need to place himself in a favorable light. To overcome the contaminating effects of pathology, Crowne and Marlowe devised an SD scale by selecting items which were believed to reflect socially desirable behavior, but behavior which had little likelihood of occurrence in our society. Thus, if an *S* answered "true" to the item "I have almost never felt the urge to tell someone off," this is believed to reflect the individual's need to place himself in a favorable light rather than indicate the absence of this particular urge. Crowne and Marlowe's preliminary scale consisted of 47 items which were rated by 10 judges as reflecting a socially desirable response. These items were also rated by another set of judges as reflecting neither good nor poor adjustment. This preliminary scale was then given to a group of 76 undergraduates and an item analysis was carried out. Of the original 47 items, 33 discriminated between the high and the low scorers at the .05 level or better. These 33 items constituted the final form of the scale.

* Received in the Editorial Office on January 16, 1963. Copyright, 1964, by The Journal Press.

[1] This study was conducted while the author was at the University of Rochester. Thanks are due to the University of Rochester Testing Service for the scoring of the test records and to Emory L. Cowen for commenting on the manuscript.

Serious questions arise as to whether or not this last form should represent the final form of the scale. One of the most important limitations is that these 33 items have not been cross-validated on a new sample. It is highly likely that the scale in its present form contains valid as well as chance items. What is needed for the Marlowe-Crowne SD scale, as for psychological tests in general (12), is a cross-validation of each of the items. Further, as previous social-desirability research has shown that sex differences represent an important variable (2, 3, 10), it would be appropriate to take the sex variable into consideration in the cross-validation of the SD scale.

In later studies using the Marlowe-Crowne SD scale, Crowne and Strickland (5) and Marlowe and Crowne (13) have interpreted the tendency to respond in a socially desirable manner as reflecting the underlying need for social approval and acceptance, one of the possible interpretations of SD suggested by other writers as well (6, 9). In addition to being a cross-validation of the Marlowe-Crowne SD scale, the present study offers some evidence for this particular interpretation of social desirability.

B. Method

1. *Subjects*

The *S*s consisted of a total of 218 undergraduates (108 males and 110 females) enrolled in either introductory, personality, or child psychology courses at the University of Rochester.

2. *Procedure*

The Marlowe-Crowne Social Desirability Scale (M-C SDS) was administered to *S*s under three different conditions: *standard instructions,* set for *social desirability,* and set for *social approval.*

The M-C SDS with *standard instructions* (i.e., the instructions suggested by Crowne-Marlowe) was given to 100 *S*s (50 males and 50 females). The instructions read as follows:

> This booklet contains a list of statements concerning personal attitudes and traits. Read each item and decide whether the statement is *true* or *false* as it pertains to you personally.

The condition giving the set for *social desirability* was comprised of 68 *S*s (33 males and 35 females), and the following instructions preceded the M-C SDS:

> This booklet contains a list of statements concerning personal attitudes and traits. Read each item and respond by answering *true* or *false.* Do

> not answer from your own point of view, but rather respond in a way you think would be considered more socially *desirable* than undesirable in our society. In other words, for each item decide whether people in our society would consider a true or a false answer to be more *desirable*.

In the third condition, the M-C SDS was administered to 50 *S*s (25 males and 25 females) with a set for *social approval*. This group received the following instructions:

> This booklet contains a list of statements concerning personal attitudes and traits. Read each item and respond by answering *true* or *false*. Do *not* answer from your own point of view, but rather respond as you think a person who had a strong need for social approval would respond. In other words, pretend you were a person in our society who strongly needed approval and acceptance by others; from this person's point of view, answer each item either *true* or *false*.

C. Results

The item analysis of the M-C SDS administered under standard conditions was done separately for the 50 male and the 50 female *S*s.[2] The scores for each sex were divided into the 25 highest and the 25 lowest, and chi squares were computed for each item. Of the 33 items, 17 and 15 discriminated at the .05 level or better for males and females respectively. The items which proved significant for males were not the same as those which were significant for females, though there was an overlap on eight of the items. These findings are summarized in Table 1. The actual items (and the socially desirable response) which remain after cross-validation are presented in Table 2.

The three conditions were compared with respect to total scores, and Table 3 presents the means and *SD*s for each condition. As compared with the mean of 12.90 and *SD* of 4.90 indicated in Table 3, Crowne and Marlowe (4) report a mean of 13.72 and *SD* of 5.78. The differences among the means of the three groups in the present study were compared by *t* tests, revealing significant differences among all three conditions beyond the .001 level. The records of all three groups were rescored with the cross-validated key (i.e., using only those items presented in Table 2). The means and *SD*s on the cross-validated scale are presented in Table 3. The results of *t* tests indicate that the means of the three groups (with males and females combined) were significantly different from each beyond the .001 level.

The condition in which *S*s were given the set to respond in a socially desirable manner corresponds to what essentially is a cross-validation of each

[2] Guilford (11) has suggested that an *N* of 50 is the minimal value that can be used in an item analysis.

TABLE 1
RESULTS OF THE ITEM ANALYSIS FOR MALE AND FEMALE *Ss*

	Item																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Male *Ss*	NS	**	**	NS	NS	NS	NS	**	*	**	**	NS	NS	NS	NS	*	**	*	**	**
Female *Ss*	NS	NS	*	NS	*	NS	**	NS	NS	NS	NS	NS	**	NS	**	NS	*	NS	*	NS

	21	22	23	24	25	26	27	28	29	30	31	32	33
Male *Ss*	*	NS	NS	**	**	NS	NS	**	*	NS	NS	NS	**
Female *Ss*	*	NS	*	*	**	NS	*	**	NS	**	NS	NS	**

* Significant at the .05 level.
** Significant at the .01 level.

TABLE 2
THE CROSS-VALIDATED M-C SOCIAL DESIRABILITY SCALE

Male form	Female form
1. I never hesitate to go out of my way to help someone in trouble. (T)	1. It is sometimes hard for me to go on with my work if I am not encouraged. (F)
2. It is sometimes hard for me to go on with my work if I am not encouraged. (F)	2. On occasion I have had doubts about my ability to succeed in life. (F)
3. My table manners at home are as good as when I eat out in a restaurant. (T)	3. I am always careful about my manner of dress. (T)
4. If I could get into a movie without paying and be sure I was not seen I would probably do it. (F)	4. No matter who I'm talking to, I'm always a good listener. (T)
5. On a few occasions, I have given up doing something because I thought too little of my ability. (F)	5. There have been occasions when I took advantage of someone. (F)
6. I like to gossip at times. (F)	6. I always try to practice what I preach. (T)
7. I'm always willing to admit it when I make a mistake. (T)	7. I sometimes try to get even rather than forgive and forget. (F)
8. I always try to practice what I preach. (T)	8. I am always courteous, even to people who are disagreeable. (T)
9. I don't find it particularly difficult to get along with loud mouthed obnoxious people. (T)	9. There have been occasions when I felt like smashing things. (F)
10. I sometimes try to get even rather than forgive and forget. (F)	10. I would never think of letting someone else be punished for my wrongdoings. (T)
11. When I don't know something I don't at all mind admitting it. (T)	11. I never resent being asked to return a favor. (T)
12. I am always courteous, even to people who are disagreeable. (T)	12. I never make a long trip without checking the safety of my car. (T)
13. I would never think of letting someone else be punished for my wrongdoings. (T)	13. There have been times when I was quite jealous of the good fortune of others. (F)
14. I never resent being asked to return a favor. (T)	14. I am sometimes irritated by people who ask favors of me. (F)
15. There have been times when I was quite jealous of the good fortune of others. (F)	15. I have never deliberately said something that hurt someone's feelings. (T)
16. I have almost never felt the urge to tell someone off. (T)	
17. I have never deliberately said something that hurt someone's feelings. (T)	

item's rating of social desirability. Thus, if Crowne and Marlowe's raters of these items were accurate in their judgment of social desirability, one would expect a significant number of *Ss* in the social-desirability condition to respond to each item in the scored (i.e., socially desirable) direction. As Table 4 indicates, however, this was not found. For male *Ss*, only 25 out of 33 items had a significant number of responses in the scored direction. For female *Ss*, 27 items yielded a significant number of "socially desirable" responses. On six of the items (items 4, 11, 15, 22, 23, and 31), there were differences between males and females in their tendency to respond in the scored direction.

TABLE 3
MEANS AND *SDs* ON THE ORIGINAL AND THE CROSS-VALIDATED M-C SDS FOR EACH OF THE THREE CONDITIONS

Condition	*N*	Means	*SD*
	Original scale		
Standard condition	100	12.90	4.90
Social-desirability condition	68	25.69	9.88
Social-approval condition	50	19.72	8.56
	Cross-validated scale		
Standard condition			
Males	50	7.36	3.71
Females	50	7.08	3.23
Total	100	7.22	3.45
Social-desirability condition	68	12.43	3.36
Social-approval condition	50	10.07	4.14

Table 4 also presents the findings for the group who responded under the social-approval instructions. An inspection of the table indicates the lack of consistency between the social-approval and the social-desirability condition. On items 5 and 31, *Ss* in the social-approval group even responded in the *opposite* direction (i.e., the "undesirable" direction). There was a consistency of responses on only 45.5 per cent of the items for male *Ss*, and on 54.5 per cent for female *Ss*.

D. Discussion

The findings of this study indicate that approximately half of the items in the original M-C Social Desirability scale failed to discriminate beyond chance when cross-validated. Further, some items discriminated for both males and females, others for males only, and still others for females only. This finding further supports the contention of many that psychological testing and research should give greater recognition to the possibility of sex differences (1, 15). This is especially important in the area of social-desirability research, as the cultural standards which guide the behavior of men will differ from those standards which limit the behavior of women. Thus, while the test item "I

TABLE 4

THE SIGNIFICANT FREQUENCY OF RESPONSES IN THE SCORED DIRECTION FOR THE "SOCIAL APPROVAL" GROUPS

Group	Item 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Male *Ss*																				
Social desirability	**	**	NS	NS	NS	**	**	**	**	**	NS	**	**	**	NS	**	**	NS	*	**
Social approval	NS	**	NS	NS	0*	NS	**	NS	NS	NS	NS	NS	**	NS	NS	NS	**	NS	NS	NS
Female *Ss*																				
Social desirability	**	**	NS	**	NS	**	**	**	**	**	**	**	**	**	**	**	**	NS	**	**
Social approval	*	NS	NS	**	NS	*	**	NS	**	NS	NS	*	**	NS	NS	NS	**	NS	**	NS

Group	Item 21	22	23	24	25	26	27	28	29	30	31	32	33
Male *Ss*													
Social desirability	**	NS	**	**	**	**	**	**	NS	**	*	**	**
Social approval	**	NS	NS	NS	**	NS	**	NS	NS	NS	0**	NS	**
Female *Ss*													
Social desirability	**	*	NS	**	**	**	**	**	NS	**	NS	*	**
Social approval	**	NS	NS	NS	**	NS	*	NS	NS	**	0*	NS	NS

* Significant at the .05 level.
** Significant at the .01 level.
0* Significant at the .05 level in the *opposite* direction.
0** Significant at the .01 level in the *opposite* direction.

am always careful about my manner of dress" discriminated for females, it failed to do so for males.

Though Crowne and Marlowe (4) report that the 33 items in their scale were drawn from a pool of items which were judged to be socially desirable, the findings of the social-desirability condition in the present study confirmed the ratings on only some of the items. The judges in the Crowne and Marlowe study consisted of faculty members and graduate students in psychology who were asked to make their ratings from the point of view of college students. The discrepant findings may have been a function of the judges' inaccurate estimates of college students' ratings. Another possibility is that Crowne and Marlowe used only 10 judges, while the present study employed 68 *Ss* (33 males and 35 females) in the social-desirability condition.

The procedure used by Crowne and Marlowe (4) and Edwards (8) in constructing the SD scale consisted of getting items which were rated as reflecting social desirability, submitting them to a group of *Ss*, and then performing an item analysis. At this point, the authors claim to have an SD scale.[3] However, as Meehl has pointed out in his early paper on the "dynamics" of structured personality tests (14), one should take a strict empirical approach in the interpretation of a response to a test item, regardless of what its content might be. In accord with Meehl's suggestion, as well as Katzell's (12), the results of this study indicate that despite the fact that an original pool of items is rated as reflecting social desirability, a cross-validation of each item is needed. Edwards (8) reports that an item analysis of his 79-item scale finally yielded a 39-item SD scale, which he calls the "Short form." Actually, this 39-item scale should be regarded as the "only" form. The same holds in the case of the cross-validated M-C scale, though it may be limited in that it consists of a relatively small number of items.

While social desirability has been equated with social approval (5, 13), the results of both this study and a study by DeSoto, Kuethe, and Bosley (6) suggest that this may not be the case. DeSoto, Kuethe, and Bosley found that when *Ss* were given the Edwards SD scale under "social approval" instructions, there was agreement with Edwards' judges only 54 per cent of the time. The lack of agreement between the desirable and the approval conditions in the present study lends further doubt to the hypothesis that social desirability and social approval reflect the same phenomenon.

---

[3] The reasoning behind stopping at this point apparently lies in the fact that a high correlation has been found to exist between an item's SD and rating at its frequency of endorsement.

E. Summary

The purpose of this study was to cross-validate the Marlowe-Crowne SD Scale items, to take into consideration any possible sex differences, and to offer evidence for the hypothesis that social desirability is equivalent to social approval. One hundred *Ss* were given the scale with standard instructions, 68 *Ss* with a set for social desirability and 50 *Ss* with a set for social approval. An item analysis of the scale in the standard condition indicated that 17 and 15 of the 33 items discriminated at the .05 level or better for males and females respectively. Only eight of these were the same for both sexes. The lack of agreement between the social-desirability and the social-approval conditions casts some doubt on the hypothesis that they reflect the same phenomenon.

References

1. Carlson, E. R., & Carlson, R. Male and female subjects in personality research. *J. Abn. & Soc. Psychol.*, 1960, **61**, 482-483.
2. Cowen, E. L. The social desirability of trait descriptive terms: Preliminary norms and sex differences. *J. Soc. Psychol.*, 1961, **53**, 225-233.
3. Cowen, E. L., & Stiller, A. The social desirability of trait descriptive terms: Order and context effects. *Can. J. Psychol.*, 1959, **13**, 193-199.
4. Crowne, D. P., & Marlowe, D. A new scale of social desirability independent of psychopathology. *J. Consult. Psychol.*, 1960, **24**, 349-354.
5. Crowne, D. P., & Strickland, B. R. The conditioning of verbal behavior as a function of the need for social approval. *J. Abn. & Soc. Psychol.*, 1961, **63**, 395-401.
6. DeSoto, C. B., Kuethe, J. L., & Bosley, J. J. A redefinition of social desirability. *J. Abn. & Soc. Psychol.*, 1959, **58**, 273-275.
7. Edwards, A. L. Manual for the Edwards Personal Preference Schedule. New York: Psychol. Corp., 1953.
8. ———. The Social Desirability Variable in Personality Assessment and Research. New York: Dryden, 1957.
9. Fordyce, W. E. Social desirability in the MMPI. *J. Consult. Psychol.*, 1956, **20**, 171-175.
10. Goldfried, M. R., & McKenzie, J. D., Jr. Sex differences in the effect of item style on social desirability and frequency of endorsement. *J. Consult. Psychol.*, 1962, **26**, 126-128.
11. Guilford, J. P. The phi coefficient and chi square as indices of item validity. *Psychometrika*, 1941, **6**, 11-19.
12. Katzell, R. A. Cross-validation of item analyses. *Educ. & Psychol. Meas.*, 1951, **11**, 16-22.
13. Marlowe, D., & Crowne, D. P. Social desirability and response to perceived situational demands. *J. Consult. Psychol.*, 1961, **25**, 109-115.
14. Meehl, P. E. The dynamics of "structured" personality tests. *J. Clin. Psychol.*, 1945, **1**, 296-303.
15. Wesman, A. G. Separation of sex groups in test reporting. *J. Educ. Psychol.*, 1949, **40**, 223-229.

Department of Psychology
State University of New York at Stony Brook
Stony Brook, L.I., New York

The Journal of Social Psychology, 1964, **64**, 147-156.

ICONOGRAPHY OF GROUP PERSONALITY DYNAMICS: CARICATURES AND CARTOONS*[1]

Department of Psychology, Hunter College

IRVING R. STUART[2]

A. INTRODUCTION

It is no longer a novelty in lay circles for a discussion of the motivation, drives, and personality structures of the creator of a particular work of art or literature to be carried on in generally understood psychological terminology. The concept of unconscious projection is by now not only accepted but freely utilized in art criticism by professionals as well as the general public. Content and style in a painted, sculpted, or even welded art object is now as inextricably bound up with the emotions for the average viewer as the mind is with the body. However, this understanding of the relationship between artist, viewer, and art object is commonly restricted to individual creators and solitary viewers. Does this dualism between art and the emotions extend to the group and the artists concerned with its activities?

Spontaneous drawings, such as doodles, have long represented to psychoanalytic investigators pentimenti of the mind containing clues to the emotional forces affecting the personality of their particular creator. Pictures with the same genetic background, but based on group rather than individual emotions, are available in the form of lithographs popularly lumped indiscriminately under the title of political cartoons. It is contended that the forces which favor the creation of such pictures restate the emotions common to the group via a visible and tangible medium. As such they duplicate for group dynamics what the Rorschach and other projective techniques accomplish for the understanding of the individual (15). Furthermore, by their very nature, they indicate—much as projective devices do—the level of group stress, and it is this characteristic which distinguishes cartoon from caricature.

* Received in the Editorial Office on January 24, 1963. Copyright, 1964, by The Journal Press.

[1] This study is part of an investigation of the projective aspects of political art as reaction to catastrophy and was made possible by a grant from the American Academy of Arts and Sciences.

[2] The author is indebted to Mr. Joseph Klein of New York City for cooperation in making his collections available for study.

B. Method

Primary data in the form of an extensive collection of political art, produced for popular consumption in the era before the formal exposition of unconscious motivation and symbolic representation by Freud, existed in the form of a unique collection. These lithographs were based on the daily stresses and strains of the Parisian population during the Franco-Prussian War of 1870-1871.

For purposes of analysis as to the form in which their emotionality was exhibited, as well as the direction of their aggression, they were categorized according to subject as illustrated in Table 1.

TABLE 1
CARTOON AND CARICATURE SUBJECTS BY FRENCH ARTISTS DURING THE FRANCO-PRUSSIAN WAR, 1870-1871

Subject	*N*
1. Napoleon III	110
2. The Prussians and their confederates	101
3. Civilized France *vs.* barbarous Prussia	78
4. French politicians who betrayed France	60
5. Empress Eugenie, the Prince Imperial, and Princess Mathilda	1
6. Eroticism and pornography	7
7. The class struggle	6
8. Empire *vs.* Republic	15
9. Favored politicians	11
10. The Church	10
11. Miscellaneous themes	7
Total	462

The period during which these pictures were produced included not only July and August, 1870, but extended through the Siege of Paris, its occupation by German forces, and the civil war that was called "The Commune of Paris." The collection ends with this last event in May, 1871. The first two months were important because they included a brief moment of unquestioned confidence and expectations of victorious news by the French public. The pictures exhibit these feelings, as they follow, in a cyclical manner reminiscent of a classic manic-depressive psychosis—the crests of elated expectation and the consequent troughs of depression experienced by the population of Paris during the succeeding months.

C. Results

The period during which these pictures appeared made demands which called for all the emotional and physical resources of their viewers. In style, the pictures ostensibly followed that which had been developed in previous

decades by artists, such as Grandville, Daumier, and Phillipon, who as a consequence had become French household names. Humorous newspapers, such as *Le Caricature* and *Charivari,* had published cartoons, resembling these in some respects, which had become a part of French political life and which had been suppressed only by the official censorship of various monarchs who feared their influence on the people.

It is apparent that the wartime artists were overwhelmingly devoted to the production of aggressive and hostile themes. Although exhortations to the viewer based on traditional appeals to his patriotism were not missing throughout the period, particularly when the reality of the Prussian danger became acute, the largest number of pictures of this type flowered in the month of September immediately after the stunning news of the capture of an entire French army, including the Emperor, at Sedan on September 2, 1870. With the approach of the enemy to the gates of Paris and its complete investiture by the 19th of September, the patriotic "defense" themes swelled in number. However, they always remained a minor production when compared with the high amount of destructive themes with which this period seemed to be saturated.

No person prominent in the public's eye, either as a member of the former ruling family or someone connected with the imperial government, escaped the hostility and aggression of the artist in his capacity as a public servant. He thus functioned as an interpreter of group emotions and made them tangible.

The Roman Catholic Church came in for a share of bitter recriminations for the state in which the French found themselves. These accusations were mainly directed against the alleged alliance between the clergy and the former rulers of France, as well as against the German enemy. Strong German Protestant animosity toward the French as Catholics (and the reverse animosity), which had played no small part in the hostility between the nations for centuries in the past, was ignored.

Other themes played on the French self-image as the leaders of world civilization and on the French conception of the Prussians and their allies from all the other German states as insensitive and uncultured brutes. In this respect it is surprising that we see only one accusation of Prussian brutality toward French civilians in print—a type of accusation which was very popular in World War I propaganda. In fact, more atrocities (in allegorical form specifying the murder, rape, or dismemberment of La France in female form) were laid at the door of French politicians than were attributed to the enemy.

The subject of the class struggle, evidenced in 16 pictures, reflects the

growing strength of the International Workers of the World who, during the previous decade, had developed a strong base among the proletariat throughout western Europe and England. It was a portent of what was to come in the next century, as well as a reflection of the first half of that one which saw the socialist revolutionary philosophy placed in print by Marx and Engels.

The greatest reflection of emotional and physical frustration and of a need for a restoration of security is found in the huge number of pictures directed against individuals who were held responsible for a variety of misdeeds. Foremost among these individuals was the Emperor. He is crucified in all imaginable ways, and in a number which could have been the result only of unimaginable emotions. He is beaten in twenty different ways, drawn and quartered, and his parts are sold in butcher shops. He is hitched and muzzled like a horse to a cart pulling the Prussian leaders, his face superimposed on a pile of human feces or forming the backside of a gross pig. The pornographic pictures in which he is the central figure even include a picture contending that he supervised the sexual seduction of his son. Those pictures which have the Empress as a central figure are almost exclusively based on sex, with a few, however, that change pace to deride her capabilities as a wife and mother.

In general, the collection illustrates a marked difference in the execution of similar themes, even those created by the same artist, at different periods. The pictures reflect the changing emotional reactions to extreme stress in a manner which has fortunately preserved the reactions for contemporary analysis.

D. Discussion

People of the Second Empire in France, 1853-1870, were no less Victorian in their conception of what constituted proper relations in public between the sexes, the classes, and the masses than were the British across the channel. There is no evidence that M. and Mme. Proudhomme, the French symbols of propriety and bourgeois righteousness, were any different from their contemporaries in England and America. The goals of all men of worth—the subjects of many of Daumier's satirical prints—were order, respectability, and adherence to social codes. Although exhibitionistic-voyeristic restrictions are usually loosened for the presentation of the nude in the arts, even in such a frame of reference there were objections for a nude to be part of a group which included clothed males. Manet's *Déjeuner sur l'herbe* is an appropriate example; some additional clues as to the personality dynamics of viewers who object to such masterpieces may be found in the results of experimental studies conducted by Eliasberg and Stuart (3).

Amidst this rigid code which governed the relationship between the sexes in public as well as in private, the disaster of the totally unexpected defeat by an enemy whose military powers were disdained had a stunning impact on the mass of the people. How could the emotions of the group be expressed and relieved? With entire French armies captured, the Emperor a living prisoner, Paris surrounded and under siege, sorties smashed, and no hope of relief, public emotions were brought to a pinnacle of tension. Hunger, exposure, and cold contributed to the despair.

Neumann (14, p. 277) ascribes the search for conspirators to just such circumstances where great expectations have proved to be not only unjustified but patently absurd. He observes that the individuals whom the people choose as the object of their hostility are considered to be real enemies despite the fact that these individuals were often accepted formerly as a part of the eidetic national image, and that they can be used as an outlet—via caricature and cartoon—to relieve accumulated feelings. This is particularly true when the individuals are not available (Benito Mussolini *was* available) for punishment.

The artists who created this collection of pictures portrayed their own (as well as their countrymen's) anxiety, guilt, and frustration in a manner which revealed the displacement of the viewer's emotions on convenient scapegoats. Certainly the depths of the emotions indicated in the pictures of Napoleon III—where he is shown as a pathetic, spindle-shanked, rheumy-eyed figure tied to a post like an animal—revealed not only hatred but self-pity for the symbol of that which had been France. Some explanation for the reaction of the French can be secured from the observations of Janis on surgical patients in hospitals. He concludes that,

> . . . a relative absence of anticipatory fear is pathogenic in that the individual fails to build up effective psychological defenses in advance and therefore finds it difficult to ward off feelings of helplessness when the danger actually materializes. Such failure can give rise to . . . a loss of self-confidence combined with distrust and resentment toward others from whom he could expect to have protective support (11, p. 92).

The French disdain of the Prussians before the conflict was shared by all classes; in addition the French had an Emperor, a "superior sovereign," to lead them in the tradition of the Great Napoleon. The debacle was more than they could bear.

The presence of cartoons in this collection reflects the remnants of cultural bonds still operating on the method of presentation of group feelings. The concept of regression in the service of the ego, suggested by Kris (13), re-

ferred to the appearance in the creative process, during its early stages, of modes of thinking which were connected or controlled by the primitive, unreasoning, illogical drives of the id, but which still remained under some control of the ego. The mature individual, presumably one who is not operating under conditions of extreme emotional stress for any significant period of time, can afford to permit himself to regress emotionally to a point where he can find humor in some aspect of the primary process with which he is faced. He does not lose control over himself and surrenders only momentarily to the attractions of off-color jokes, for example; but the controls of secondary process, which make it possible for public exhibition under normal circumstances, are never entirely unleashed (5).

Not all viewers of these pictures at the time found them palatable. Comparatively uninvolved foreigners, those who had no more than a casual relationship with the leaders and the prominent people of France, described the pictures as scurrilous, malicious, and disgusting (17). During the emotional pressures of the Siege and the Paris Commune, however, the French purchased the pictures by the thousands; after the war, the same pictures were described as objectionable because they attacked "the innermost nature of a person" (8, p. 432). This was the very reason for their attraction to the public at the time of their sale.

The response of a viewer to visual stimuli requires him to use either old-and-established behavior patterns in organizing his cognitive world, or to seek new ones which better "fit" his emotional and physical requirements. Personal wants selectively organize cognitions so that they are congruent with emotional needs (2). When strong emotions are involved, the accustomed way in which the world appears is distorted as the perception of the individual is sensitized to particular aspects and objects within his unique world. Cognitive change is initiated by changes in the information the individual receives about his world as well as by his varying levels of emotional needs and his ability to reach a goal which satisfies them (16).

The problem for humans, according to Freud's views (6) presented in his *Civilization and Its Discontents,* is the attainment of a state of ease which presumably is the foundation for a state of happiness. This requires certain conditions which include domination of the external environment which is never completely within our power, our susceptibility to injury and death of the body, and the limitations on means and procedures by society for satisfying one's emotional and physical needs. These hinderances placed upon unfettered instinctual gratification lead to conflicts which are revealed through the behavior of the individual operating as a member of a particular group.

Neumann (14, p. 272), in his discussion of anxiety and politics, makes the observation that the renunciation of instinctual gratification and the cultural tendency toward the limitation of love characterizes the alienation of the ego from the dynamics of instinct.

The theory of projective psychology maintains that as a person's anxiety level increases beyond the accustomed point at which he has learned to handle strong forces, he calls into operation common mechanisms of adjustment which function to permit him to return to a state in which he again feels at ease (1). The tolerable level of anxiety obviously differs from person to person, but the greater the social disruption of catastrophy, the more people it affects, and the more highly motivated along similar restorative lines will be all individuals comprising the group. The reorganization of the cognitive world by the French was forced on them by the inescapable reality of their situation. Under such circumstances it cannot be expected that people will achieve a logical and reasonable solution to their problems. The greater the trauma, the more we can expect evidences of unreality and primary process. Whether this cognitive change is satisfactorily adaptive to the new situation depends upon the strength of the want and the accuracy with which the solution to the frustration is perceived (12, p. 38).

The basic emotional drives are harnessed by society and, like all intense lines of force, must occasionally find relief in some culturally appropriate form. It is interesting that there are some prohibited expressions of these basic drives for the individual which do not apply to activity by the group as a whole. A common example is the permission to exhibit hostility against an umpire of a sporting event in the most violent manner only because of group involvement in the activity.

The appearance of culturally unadulterated drives—called *primary process* by Freud (4) to distinguish them from those (*secondary process*) which are more rational, consistent, logical, and in harmony with the laws of conduct and thought of the particular culture—is rarely seen in a pure state. Rather, it is agreed that there is a scale ranging from the more primary thought processes at one end to the more socially restrained at the other (9, p. 17). Just as there are no evidences of primary process completely untouched by the prescriptions of society, neither can we hope to encounter in a normal individual secondary process, however disguised it may be, untouched by basic drives. This is due to the mediating efforts of the ego. Although its struggles to maintain a state of homeostasis through its contacts with reality do not preclude tension and anxiety in both individual and the group of which he forms a part, it does distribute them into a more comfortable and secure con-

figuration—however transitory and fragile. Caricatures and cartoons are iconic signs of such emotionality.

It is a generally accepted postulate in psychology that creation is accompanied by unease or tension on the part of the creator. A period of stress, such as that which occurs during a prolonged siege and bombardment of an entire city, would be most likely to result in some indication of the anxiety of the entire community. An artist is no further from his community than other men, and the danger and deprivation he experiences in conjunction with its trials would all the more likely be present in some essential aspects of his creations during such a period than would those of a less gifted man. The greater the danger, the anxiety, and the frustrating experiences suffered by the community, the closer to the surface we would expect to see those deeper emotional processes presented in illustrations of the period. The stronger the pressure, the less likely are the illustrations to be bound by the normal conventions of the society, and the more likely to be reminiscent of the essential features of dreams in content as well as symbolism. To the average Frenchman, the possibility that the Prussians could defeat any French soldier, much less an army of them, resembled the features of a mental breakdown. France was the center of culture, civilization, and martial courage for the entire world; Paris was the physical representation. The stage was thus set for the creation of caricature as well as cartoon.

What are the objective features which distinguish caricature from cartoon? Gombrich (7) pointed out that to copy or mimic a person visually was to destroy his individuality, his "persona." He no longer existed as a person to the one who thus manipulated his essential spirit. Fear, respect, and allegiance —usually associated with the Emperor, his family and prominent politicians— were destroyed by thus making the individuals into subjects of derision. Both artists as well as viewers shared in this diminution of the status of formerly respected individuals. This is in essence a process akin to image-magic, as it destroys its aptly named "victim" who is the target of its aggression. Essentially, the direction of the attention of both artist and viewer are changed from the surface to the subconscious. The subject's character, rather than his surroundings, is placed in the foreground of the viewer's cognitive perceptions. The aim is to ridicule and punish through laughter, an instrument of hostility. The style in which this attack is carried out depends upon the training of the individual artist, although it is possible to recognize the particular approach of some artists by their individual manner of depicting certain emotions, as well as by their concentration upon particular aspects of the

subject's history, personal or public. In general the technique seems to be most deadly when an uncluttered, sketchy, jerky, angular line is used.

The invitation offered by caricature, as distinguished from cartoon, is for us to enjoy vicarious destruction, sadistic orgy, or masochistic wallowing in self-pity, injury, and torture. We are allowed to indulge in the freeing of primary-process drives without fear of punishment. This freeing permits the viewer, by accepting the invitation of the artist, to reduce the tensions of the moment through the scapegoat, or goat bait, which has been staked out to slake the hunger of the emotional tiger. It repeats the period of freedom, which we enjoyed only during our childhood, to mutilate and destroy without fear of punishment. Caricatures are thus more openly representative of primary process in content and presentation. Holt's description (10) of Rorschach responses on this primitive level emphasizes that they intrude in an ego-alien, threatening manner. Cartoons, however, are presented in the acceptable vestments and language of polite society when the emotional content appears as secondary process.

E. Conclusions

What was accomplished by caricature as well as by the more socially acceptable cartoon, and confirmed by purchases in huge numbers, was illustrative of a disruption of the accustomed cognitive world of the French people and a consequent distorted, frantic reorganization in an attempt to structure a new, balanced, "comfortable" configuration. The different dynamic levels evidenced in the two types of drawings reveal the depths of the feelings stimulated by threats to the individual as well as to the group Self.

The pictures were productions of public demand rather than of governmental planning in this pre-Freudian era. Their unconscious function was to abreact anxiety and to reduce it to visible form in manageable proportions, however unrealistic. In their powerful crudities, these pictures spelled out their genesis without regard to the dictates of acceptable behavior and fashion, thus providing a vehicle for a tolerable bearing of the anxiety of the times. The viewer seemed to find the satisfaction of his wants, however artificial the means, in paying a few sous to carry them around with him in tangible form. What you can see and touch does not carry with it the intense fear of the intangible threat.

Further studies to quantify and substantiate these contentions are in progress, and the preliminary evidence suggests that the dichotomy between caricature and cartoon, based on the level of emotionality evidenced in subject and

style, promises to provide an instrument for the evaluation of the stress level of communities.

References

1. Abt, L. E. A theory of projective psychology. In L. E. Abt & L. Bellak (Eds.), *Projective Psychology*. New York: Knopf, 1950. Pp. 33-66.
2. Dearborn, DeW. C., & Simon, H. A. Selective perception: A note on the departmental identification of executives. *Sociometry*, 1958, **21**, 140-144.
3. Eliasberg, W. G., & Stuart, I. R. Authoritarian personality and the obscenity threshold. *J. Soc. Psychol.*, 1961, **55**, 143-151.
4. Freud, S. Wit and its relation to the unconscious. In *Basic Writings of Sigmund Freud* (trans. by A. A. Brill). New York: Modern Library, 1938.
5. ———. The Interpretation of Dreams (trans. by Strachey). New York: Basic Books, 1951.
6. ———. Civilization and Its Discontents (trans. by J. Riviere). Garden City, N. Y.: Doubleday, 1958.
7. Gombrich, E. H. Caricature. London: Adprint Ltd., Henderson & Spaulding, 1940.
8. Grand-Cartaret, J. Les Moeurs et la Caricatures en France. Paris: La Librarie Illustré.
9. Holt, R. R. Gauging primary and secondary process in Rorschach responses. *J. Proj. Tech.*, 1956, **20**, 17.
10. ———. Cognitive controls and primary processes. *J. Psychol. Res.*, 1960, **4**, 1-8.
11. Janis, I. Psychological Stress. New York: Wiley, 1958.
12. Kretch, D., Crutchfield, R. S., & Ballachey, E. L. Individual in Society. New York: McGraw-Hill, 1962.
13. Kris, E. Psychoanalytic Exploration in Art. New York: Internat. Univs. Press, 1952. Pp. 173-188.
14. Neumann, F. Anxiety and politics. In M. Stein, A. J. Vidich, & D. M. White (Eds.) Identity and Anxiety. Glencoe, Ill.: Free Press, 1960.
15. Rorschach, H. Psychodiagnostics (2nd ed.) Berne: Huber, 1942.
16. Stern, W., & MacDonald, J. Cloud pictures: A new method of testing imagination. *Charac. & Personal.*, 1937, **6**, 132-147.
17. Washburne, E. B. Reminiscences of the siege and commune of Paris. *Scribner's*, 1887, January, 3-183.

Department of Psychology
Hunter College
Bedford Park Boulevard West
New York 68, New York

The Journal of Social Psychology, 1964, **64**, 157-160.

SOME OBSERVATIONS REGARDING THE USE OF PROJECTIVES IN SOCIAL AND INDUSTRIAL RESEARCH*

Human Resources Foundation and Hofstra College

J. R. Block

A recent study by the present author (4) attempted to investigate the correlates of need achievement in a population of physically disabled industrial workers. In this study, two specific problems with regard to the use of projective instruments in a research investigation in a natural setting were encountered. The implications underlying the problems may be of some general interest to investigators planning to use projective techniques for research in settings other than the clinic or the classroom. The first of these problems involved corrections for protocol length in scoring the Need Achievement Test (5). The second problem dealt with what the present author believes to have been a negative reaction, on the part of the population studied, to the use of projectives.

Atkinson (3) maintains that when there is reason to believe that Need Achievement scores obtained through scoring system "C" (5) are correlated with protocol length, a correction should be applied to the original Need Achievement score. The underlying assumption is that high verbal productivity is likely to produce a large number of achievement-related scoring categories on a probability basis alone, since the Need Achievement score is based on the frequency of appearance of achievement images. If this is the case, measurement of need for achievement would be contaminated by verbal productivity. The nature of the correction which Atkinson suggests involves dividing the protocols into five subgroups according to length, and then computing z scores for each Need Achievement score within each group. Thus, an individual who had a relatively large number of achievement-related images but had a very short protocol might receive the same score as an individual who had substantially more achievement-related categories but a much longer protocol. It is assumed that the increased verbal productivity in response to the picture is a function of factors other than the need for achievement.

* Received in the Editorial Office on February 13, 1963. Copyright, 1964, by The Journal Press.

The net effect of applying this correction for protocol length is to reduce to zero any existing correlations between length and achievement imagery. In the study under consideration, it was found that protocol length and Need Achievement scores were significantly correlated, and the correction for protocol length was applied. In testing a number of hypotheses regarding relationships between Need Achievement and other measures, it was found that hypotheses which appeared to make some degree of psychological sense and were statistically supported with the original Need Achievement score were supported to a substantially lower degree when evaluated with corrected Need Achievement scores. When the hypotheses were evaluated using a pure measure of verbal productivity (protocol length) no substantial support was evidenced.

The findings in the study by Block (4) suggest that Need Achievement scores contaminated with verbal productivity show more "sensible" relationships than either a pure measure of Need Achievement or a pure measure of protocol length. Perhaps verbal productivity reflects Need Achievement, at least in part, and the nature of the correction is too severe in ruling out protocol length, thus eliminating some valid variance.

The second problem observed in the study by Block centered around subjects' attitudes. A number of recent texts in the area of psychological testing suggest that projective techniques produce minimum tension and/or anxiety on the part of respondents. They note that the respondent is usually willing to respond freely to the relatively ambiguous stimulus. Allen, in discussing the advantages of projectives, for example, notes that in comparison with other approaches to personality, there is ". . . much less tension to speak about characters in a picture card, or in a drawing made by the testee, or about a scene created out of puppets or mineature figures" (1, p. 168). Thorndike and Hagen observe that through the use of projectives ". . . inhibitions and conscious controls may be bypassed. . . ." (7, p. 432).
Anastasi comments that:

> Most projective techniques represent an effective means for "breaking the ice" during the initial contacts between subject and examiner. The task is usually intrinsically interesting and often entertaining and thus reduces embarrassment and defensiveness. And it offers little or no threat to his prestige, since any response he gives is "right" (2, p. 590).

These characteristics of projectives have suggested to many that their use in social research might be profitable. Selltiz, Jahoda, Deutch, and Cook state:

> . . . a projective approach frequently seems desirable as a way of encouraging freedom and spontaneity of expression. This is especially likely to be the case when there is reason to believe that respondents may hesitate to express their opinions directly for fear of disapproval by the investigator, or when respondents are likely to consider direct questions as an unwarranted invasion of privacy or to find them threatening for some other reason. . . . The subject may find it easier to express himself if he is not explicitly talking about his own feelings and attitudes, even though he knows what he says will be so interpreted. He may have a certain measure of distance from the topic if he can ostensibly talk impersonally, and a certain measure of security in not having to say in so many words that this is how he himself feels (6, pp. 286-287).

The study by Block (4) was part of a series (8, 9) using the same population. In these earlier investigations, the percentage of subjects refusing to participate in the study was about one or two per cent of the population. In Block's study, however, the percentage of refusals was almost 10 per cent of the population. In addition, a number of subjects, whose intellectual abilities suggested that they should be able to produce adequate protocols using the customary administration procedures for the Need Achievement test, nevertheless produced protocols so meager that they could not be scored. Further, the present author noted a relatively high degree of anxiety in the group testing sessions accompanied by considerable joking on the part of the subjects about being "psychoanalyzed." This type of response had not been observed in earlier studies using self-inventory measures. The present author suggests that the reaction on the part of the subjects may be a function of a general change in the image of projective techniques held by the layman. Although the test was presented as a test of "creative imagination," and subjects were told that there was no "correct answer," this author believes that the layman today no longer believes this to be the case. While he may not have any conscious desire to fake his response, a high level of anxiety may be generated by the fact that he does not know how—or what part of his response—may be interpreted. He suspects, however, that there is some "best answer" which he cannot determine. If this is actually the case, the potential usefulness of projective techniques in their present form in research outside of the clinic and the classroom may be severely limited.

REFERENCES

1. ALLEN, R. N. Personality Assessment Procedures. New York: Harper, 1958.
2. ANASTASI, A. Psychological Testing (2nd ed.) New York: Macmillan, 1961.
3. ATKINSON, J. W. Motives in Fantasy, Action, and Society. Princeton, N. J.: D. Van Nostrand, 1958.

4. Block, J. R. Motivation, satisfaction and performance of handicapped workers Unpublished Doctoral dissertation, New York University, 1962.
5. McClelland, D. C., Atkinson, J. W., Clark, R. A., & Lowell, E. L. The Achievement Motive. New York: Appleton-Century-Crofts, 1953.
6. Selltiz, C., Jahoda, M., Deutch, M., & Cook, S. W. Research Methods in Social Relations (rev. ed.) New York: Holt, 1959.
7. Thorndike, R. L., & Hagen, E. Measurement and Evaluation in Psychology and Education (2nd ed.) New York: Wiley, 1961.
8. Yuker, H. E., Block, J. R., & Campbell, W. J. A scale to measure attitudes toward disabled persons. *Hum. Resources Study,* 1960, No. 5.
9. ———. Disability types and behavior. *Hum. Resources Study,* 1962, No. 6.

Human Resources Foundation
Albertson
New York

The Journal of Social Psychology, 1964, 64, 161-167.

SOME PERSONALITY CORRELATES OF AUTHORITARIANISM* [1]

Department of Psychology, University of Colorado

DONALD WEATHERLEY

A. INTRODUCTION

In the little more than a decade since its first careful delineation by Adorno, Frenkel-Brunswik, Levinson, and Sanford (1), authoritarianism has proved to be a popular personality variable. The California F Scale, a device designed to measure authoritarianism, has been widely applied as a research tool and has been related to a variety of attitudinal and behavioral variables (3, 7). Relationships consistent with the concept of authoritarianism have been reported between the F Scale and such variables as egocentrism, prejudice, xenophobia, and aspects of interpersonal perception. However, research involving the F Scale has by no means yielded uniformly positive findings with respect to anticipated correlates of authoritarianism. Moreover, methodological criticisms have been raised in connection with the F Scale itself, casting doubt on the meaning of some of the positive results which have been found using this scale. Therefore, the validity of the concept of authoritarianism and, to a greater extent, the validity of the F Scale as a measure of authoritarianism must still be considered open questions.

The primary methodological criticism of the F Scale stems from the fact that an *S*'s score on the scale is simply the number of statements presumably reflecting authoritarian trends that the *S* endorses. Consequently, a response set to acquiesce can elevate an *S*'s score, quite apart from any authoritarian tendencies in the *S*. While there seems to be general agreement that acquiescence response set can influence F Scale scores, there is considerable divergence of opinion with respect to the extent of such influence. For example, while Bass (2) held that most of the F Scale variance can be accounted for in terms of acquiescence response set, Christie, Havel, and Seidenberg (4) asserted that it is definitely not the primary determinant of scores on the F Scale and that Bass and others have overemphasized its importance. Regardless

* Received in the Editorial Office on February 25, 1963. Copyright, 1964, by The Journal Press.

[1] This study was supported in part by a grant from the University of Colorado Council on Research and Creative Work. Facilities of the University Computing Center were used for data analysis.

of the position one takes with respect to this issue, the fact remains that when F Scale scores are related to scores on any other paper-and-pencil test that may be similarly influenced by response-set factors, the common variance found may to some extent at least be the result of response-set variables and not variables associated with authoritarianism.

The purpose of the present study was to provide data bearing on the validity of the concept of authoritarianism and on the F Scale as a measure of this concept by determining the relationship between F Scale scores and scores on an instrument designed to measure 15 relatively independent personality variables in the form of manifest needs—the Edwards Personal Preference Schedule (EPPS). The EPPS is well suited to this purpose. It employs a forced-choice format requiring the *S* to make a series of choices between self-descriptive statements presented two at a time. Because every *S* endorses the same number of statements, the possibility of bias due to acquiescence response set is eliminated. In addition, by pairing statements equated in terms of their social-desirability values, the EPPS minimizes the influence of this factor on scale scores. Thus any relationships found between the F Scale and scales of the EPPS cannot be discounted as merely the product of common variance due to the factors of acquiescence response set or social desirability of items.

B. Method

The *S*s were 118 male and 79 female college students enrolled in an elementary psychology course. Twenty-eight items of the Form 40-45 California F Scale were administered during a regular lecture class session.[2] About five weeks later the *S*s took the EPPS in a number of smaller group sessions.

Pearson product-moment correlations were computed between each EPPS Scale and the F Scale from the data of the males and the females considered separately. In addition, for each comparison between the EPPS and the F Scale, a weighted average r for male and female subjects combined was computed, using the Fisher z transformation (5, p. 132).

C. Results and Discussion

The correlations obtained between the F Scale and each of the EPPS Scales are shown in Table 1. A number of statistically significant relationships were found. To evaluate the extent to which these findings are consistent with the concept of authoritarianism it is necessary to examine pertinent aspects of the meaning of the concept.

[2] The author is grateful to Milton E. Lipetz for making these scores available for the present analysis.

Authoritarianism, as conceived by Adorno *et al.* (1), is a complex variable involving a number of related, component personality attributes. Adorno and his associates saw as the core of the authoritarian pattern or syndrome a set of behavioral and attitudinal characteristics reflecting a preoccupation with the factors of power and authority in interpersonal relationships—a preoccupation they labeled the *power-complex*. Presumably stemming from a sado-masochistic resolution of the oedipus complex, the power-complex involves

TABLE 1
PRODUCT-MOMENT CORRELATIONS BETWEEN EPPS SCALES AND THE F SCALE

EPPS Scale	Male *Ss* ($N = 118$)	Female *Ss* ($N = 79$)	Male-female average r
Achievement	—.038	—.159	—.087
Deference	.022	.138	.068
Order	.213*	.277*	.243**
Exhibition	.001	.031	.013
Autonomy	—.266**	—.205	—.247**
Affiliation	.072	.110	.081
Intraception	—.266**	—.133	—.217**
Succorance	.070	.071	.070
Dominance	.244**	—.115	.104
Abasement	.131	.210	.164*
Nurturance	.080	.161	.112
Change	—.086	—.095	—.014
Endurance	—.017	—.030	—.022
Heterosexuality	—.122	—.257*	—.179*
Aggression	.149	.028	.101

* Significantly different from zero at the .05 level.
** Significantly different from zero at the .01 level.

contradictory elements. On the one hand, the individual high in authoritarianism turns his aggression inward; he adopts a respectful, obedient, deferential posture toward authority and uncritically accepts a set of conventional, moralistic values. On the other hand, he partially identifies with powerful figures and has a need to see himself as strong and powerful. He bolsters this self-conception and simultaneously gains an external release of his aggressive urges through cynical, prejudicial reactions toward lower-status groups or individuals.

Several significant correlations were found in the present study which are relevant to the assumed relationship between authoritarianism and an individual's orientation to authority and conventional values. In terms of the average correlations for male and female *Ss*, F Scale scores were inversely related to scores on the EPPS Autonomy Scale ($p < .01$) and positively related to scores on the Abasement Scale of the EPPS ($p < .05$). When one considers the items involved in the Autonomy Scale (e.g., "I like to criticize people

who are in a position of authority" and "I like to avoid situations where I am expected to do things in a conventional way"), and in the Abasement Scale (e.g., "I feel timid in the presence of other people I regard as my superiors"), it is apparent that these results tend to support the thesis that individuals high in authoritarianism are inclined to accept obediently and respectfully the dictates of authority and convention. In this connection, the significantly negative average correlation ($p < .05$) between the EPPS Heterosexuality Scale and the F Scale should also be noted. The Heterosexuality Scale includes such items as "I like to become sexually excited" and "I like to kiss attractive persons of the opposite sex." While this scale does not have as direct a bearing on the central assumptions concerning authoritarianism as the scales discussed above, it is not surprising that individuals scoring high on the F Scale (who are presumed to be more susceptible to the influence of conventional, middle-class social values) are less inclined than are low scorers to acknowledge such sensual desires.

It is appropriate to mention here that the failure of the EPPS Deference Scale to relate significantly to the F Scale must be considered negative evidence with respect to the assumed orientation toward authority of individuals high in authoritarianism. However, the Deference Scale is one of the least internally consistent scales of the EPPS (6); its relative unreliability ($r_{11} = 60$) may be in part responsible for this negative finding.

The present data do provide some evidence in support of the other aspect of the power-complex, the purported inclination of the individual high in authoritarianism to emulate authority figures. In the case of the male *Ss*, the EPPS Dominance Scale (e.g., "I like to be regarded by others as a leader") was positively related to scores on the F Scale ($p < .01$).

Adorno and his associates implied much more in their concept of authoritarianism than merely a set of characteristics pertaining to an individual's orientation to authority. Of particular relevance to the present data are the assertions they made concerning the intrapsychic functioning of the person high in authoritarianism. They asserted that the authoritarian individual develops strong compulsive character traits, reflecting a regression to the anal-sadistic phase of development. Moreover, both because he is afraid of his own underlying emotions and because of his emphasis on toughness, he becomes tough-minded and fact-oriented in his approach to problems and eschews a feeling-oriented, intraceptive orientation (1).

The EPPS provides one measure of compulsive traits, the Order Scale, which taps a preference for organization, neatness, and system in one's affairs. The findings with respect to this measure were in accord with expectations

based on the theory of the Adorno group; F Scale scores were positively related to scores on the Order Scale ($p < .01$). The present data also were consistent with the assertion that individuals high in authoritarianism are less likely to be intraceptive in orientation. The average correlation for the male and the female *Ss* between the EPPS Intraception Scale and the F Scale was significant and negative ($p < .01$).

There is relatively little in the literature on authoritarianism concerning sex differences in the manifestation of authoritarian trends. In the present study, however, a noteworthy sex difference was found. For men the relationship between the Dominance Scale and the F Scale was significantly positive; for women this relationship was negative, although not significantly different from zero. The difference between the correlations for men and women was, however, significant ($p < .02$). This difference between male and female *Ss* is most meaningfully understood in terms of one sex-related aspect of authoritarianism mentioned by Adorno and his associates (1). These workers noted that individuals high in authoritarianism are especially prone to emphasize personal characteristics germane to a conventional conception of their appropriate sex-role. In our society, dominance is clearly identified as an important part of the idealized, conventional masculine role. Therefore, it is plausible to conclude that men scoring relatively high on the F Scale are particularly inclined to emphasize a preference for dominance, in part because it is a masculine characteristic, whereas high scoring females are inclined to deny such a preference in the interest of confirming their femininity.

This argument would be more convincing if similar sex differences were found on other EPPS Scales that also can be considered to measure characteristics involved in the conventional conception of masculinity or femininity. In fact, if the occurrence of a significant difference in mean EPPS Scale score between college males and females in the standardization sample (6, p. 10) is taken as an indication of the sex-role relevance of a scale, then 12 EPPS Scales would be so identified. On five of these—Achievement, Autonomy, Dominance, Heterosexuality, and Aggression—men obtained significantly higher means than women; these scales could be considered "masculine." On seven scales—Deference, Affiliation, Intraception, Succorance, Abasement, Nurturance, and Change—the means of women as reported by Edwards were significantly higher than those of men; these scales could be considered "feminine." It is apparent in Table 1 that no obvious interaction between F Scale scores and the sex variable occurred on any of these 12 EPPS measures, considered separately, except the Dominance Scale. However, on 10 of these 12 scales the difference between correlations with the F Scale for males and fe-

males was in a direction consistent with the hypothesis that authoritarianism involves a tendency to emphasize sex-role related characteristics. On all but one of the five "masculine" scales, men produced higher positive or lower negative correlation with the F Scale than did women. On six of the seven "feminine" scales, women produced a higher positive or lower negative correlation with the F Scale than did men. A statistical significance level cannot be legitimately derived from this analysis, since the EPPS Scales lack formal independence. This finding is reported, nevertheless, because it prompts the interesting speculation that a heightened need to emphasize personal attributes associated with the appropriate sex-role is an aspect of authoritarianism which may have a pervasive, although generally subtle, influence upon the personality characteristics manifested by individuals high in authoritarianism.

In sum, the present data indicate that individuals high in authoritarianism as compared with those low on this variable have in their personality make-up a weaker inclination to act autonomously, think intraceptively, and admit to heterosexual desires; and a stronger inclination to abase themselves, to maintain order and system in their affairs, to stress sex-role appropriate characteristics, and—in the case of men—to express a desire for dominance over others.

With the exception of the negative findings on the Deference Scale, these data add up to a pattern of relationships which are remarkably consistent with the theoretical assertions made about authoritarianism by Adorno *et al.* (1). In addition to the support these results lend to the proposition that authoritarianism is a meaningful, valid concept, they also support the validity of the California F Scale as a measure of this concept. This is not to say, of course, that the F Scale is the best possible means of measuring authoritarianism. These data do imply, however, that despite the methodological criticisms leveled against it, the F Scale deserves acceptance as one useful measure of authoritarianism.

D. Summary

The California F Scale and the EPPS were administered to 118 male and 79 female college students. F Scale scores were positively correlated with the EPPS Scales of Order and Abasement, and negatively correlated with the Autonomy, Intraception, and Heterosexuality Scales of the EPPS. For males, the EPPS Dominance Scale was positively related to the F Scale; males differed significantly from females in this respect. The results were highly consistent with theoretical assumptions involved in the concept of authoritarianism and tended to support both the validity of the concept and the validity of the F Scale as a measure of authoritarianism.

References

1. Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., & Sanford, R. N. The Authoritarian Personality. New York: Harper, 1950.
2. Bass, B. M. Authoritarianism or acquiescence? *J. Abn. & Soc. Psychol.*, 1955, **51**, 616-623.
3. Christie, R., & Cook, P. A guide to published literature relating to the authoritarian personality through 1956. *J. of Psychol.*, 1958, **45**, 171-199.
4. Christie, R., Havel, J., & Seidenberg, B. Is the F Scale irreversible? *J. Abn. & Soc. Psychol.*, 1958, **56**, 143-159.
5. Edwards, A. L. Experimental Design in Psychological Research. New York: Rinehart, 1950.
6. ———. Personal Preference Schedule, Test Manual. New York: Psychological Corp., 1959.
7. Titus, H. E., & Hollander, E. P. The California F Scale in psychological research: 1950-1955. *Psychol. Bull.*, 1957, **54**, 47-64.

Department of Psychology
University of Colorado
Boulder, Colorado

The Journal of Social Psychology, 1964, **64**, 169-179.

SEARS' STUDY OF PROJECTION: REPLICATIONS AND CRITIQUE*

Department of Psychology, Rutgers University

WILLIAM D. WELLS AND RACHEL L. GOLDSTEIN[1]

A. BACKGROUND

In 1936, R. R. Sears published an experiment in this journal which showed that persons who have an undesirable trait, and who lack insight into the fact that they have that trait, assign the trait in excessive amounts to others (18).

Because this study seemed to demonstrate the action of a psychoanalytic "defense mechanism" it attracted a great deal of attention. Textbook writers used it to illustrate the meaning of the term "projection" (7, 8, 11, 12, 13, 15, 20, 22, 23); and theorists used it in work on personality dynamics (1, 3, 5).

Sears' experiment has also influenced theory and research in the areas of attitude formation and person perception (2, 6, 9, 21). And, because it produced a set of positive correlations among ratings on scales measuring Stinginess, Obstinacy, and Orderliness, it has been used as evidence for the existence of an "anal" personality syndrome (4, 5, 7, 19, 20).

A study as important as this one ought to be repeated, if only to test the generality of the findings. Sears' subjects were drawn from a limited and atypical population—the members of three fraternities at one university—but users of his findings have often treated them as though they hold true for all of human nature.

Furthermore, the procedural details of the study—the rating scales, the classification system, the statistical analysis, etc.—constitute but one of a variety of ways of testing the same hypothesis. If the principles demonstrated are truly general, they ought to reappear when data are collected and treated in other ways—provided that there is no real change in the logic of the experiment.

Two studies replicating certain features of Sears' study have been published (10, 16). Both employed somewhat different methods of gathering and an-

* Received in the Editorial Office on March 21, 1963. Copyright, 1964, by The Journal Press.

[1] We wish to acknowledge our debt to Joel Dames, Arlene Feinsod, Gary Gusaeff, and Neil Massoth for their help in gathering the data.

alyzing data, and both employed subjects from somewhat different populations. Neither one replicated Sears' findings.

These failures to replicate create a problem. It may be that the original results were right and that the nonconfirming studies omitted something essential. Or it may be that the relationships Sears found are too weak to survive even minor changes in subjects or procedure. If so, it would certainly be unwise to go on assuming that his relationships demonstrate a fundamental truth about human nature.

The data reported here came from two additional attempts to reproduce Sears' findings. The first, like Sears' experiment, employed college fraternity members as subjects. The second, like the studies which did not substantiate Sears' findings, employed college coeds.

In both cases, every detail of Sears' procedure was duplicated as faithfully as possible, so that either a successful replication or a failure to confirm would be informative. A successful replication would show that the original results hold true at least for other groups of college students and would therefore increase confidence in their generality. A failure to confirm would provide additional reason to believe that Sears' findings should not be generalized beyond the exact time, place, and circumstances of the original investigation.

B. Subjects

The 57 fraternity members who participated in the study all belonged to one social fraternity at Newark College of Arts and Sciences, Rutgers University. Like most students at Newark Rutgers, they lived at home and commuted to school; so they probably did not know each other as well as Sears' subjects did. They had attended meetings, parties, and other social events together for a minimum of six months before the study began. At least two-thirds had belonged to the fraternity for at least a year, and about a third had attended the same high school.

The 99 coeds who participated in the study were attending Paterson State Teachers College, Newark State Teachers College, or the Douglass College of Rutgers University. Students at the three colleges assembled small groups of close friends for the experiment. Eleven of the groups were groups of five, two were groups of six, two were groups of seven, and two were groups of nine. The subjects within individual groups were all well acquainted.

C. Method

Each subject rated himself (or herself) and each member of his (or her) own group on seven-step rating scales intended to measure four "opprobrious"

traits: Stinginess, Obstinacy, Disorderliness, and Bashfulness. [The form and the content of the scales are described in Sears' paper (18, p. 152) and are discussed below.]

Subjects who were rated above average (e.g., Stingier than average) on a trait by the other members of their group were classified as "having" the trait. Subjects who were rated below average on a trait were classified as "not having" it. Subjects who were classified as having one of the traits, and who rated themselves higher (e.g., Stingier) on the trait than they rated others, were classified as "insightful"—they had the trait and knew it. Subjects who were classified as having a trait, and who rated themselves lower (e.g., less Stingy) on it than they rated others, were classified as "noninsightful"—they had the trait and did not know it. This classification method duplicated the classification method used by Sears in his analysis.

The critical comparison was between the "insightful" and the "noninsightful" subjects. Sears found that those who had an opprobrious trait, and lacked insight into the fact that they had it, attributed the trait to others to a greater degree than those who had the trait and knew it. He interpreted this finding as a demonstration of the projection mechanism.

Sears also used the "insightful"-"noninsightful" distinction to subclassify subjects who were classified as *not* having the opprobrious traits. Subjects who did not have one of the traits (e.g., subjects who were rated *less* Stingy than average by others) and who gave themselves lower ratings on it than they gave to other people, were called "insightful." Subjects who did not have the trait, and gave themselves *higher* ratings on it than they gave to others, were classified as "noninsightful." The ratings assigned to others by members of these two groups were also compared.

When Sears made this comparison he found that noninsightful subjects rated others as having even less of the opprobrious trait than did insightful subjects. He interpreted this finding as an indication that a process like projection occurs even when the trait is not opprobrious.

In addition, the average rating assigned *by* others was correlated with the average rating assigned *to* others—first for all subjects, then for "insightful" and "noninsightful" subjects separately. When Sears examined these relationships he found consistent negative correlations in the ratings made by "insightful" subjects only. He interpreted these correlations as evidence for a mechanism he called "contrast formation"—the more of a trait an insightful person possesses, the less of it he attributes to other people. Analogous correlations were computed from the present data.

Finally, the average ratings assigned each subject on each trait were inter-

correlated. Positive and significant correlations among Stinginess, Orderliness, and Obstinacy would provide further evidence for the existence of an anal syndrome.

D. Results

Tables 1 and 2 show the mean ratings assigned to others by the four groups formed by Sears' criteria. Sears' data are also presented for comparison. Note that Sears' data are in standard scores, while the present data are in raw-score form.

TABLE 1
Mean Scores Assigned to Others

Trait	Subjects "having" the opprobrious trait				Subjects "not having" the opprobrious trait			
	Noninsightful A		Insightful B		Noninsightful C		Insightful D	
	n	*M*	*n*	*M*	*n*	*M*	*n*	*M*
	Fraternity members (in raw scores)							
Stinginess	15	3.36	9	3.08	8	3.06	24	3.14
Obstinacy	5	3.58	19	3.27	14	3.30	18	3.37
Disorderliness	13	3.45	13	3.46	11	3.55	20	3.55
Bashfulness	9	3.11	16	3.11	10	3.04	22	3.15
	Coeds (in raw scores)							
Stinginess	29	3.13	21	2.96	14	2.57	35	2.86
Obstinacy	33	3.45	12	2.91	12	2.83	42	3.15
Disorderliness	20	3.44	25	3.38	17	2.94	37	3.45
Bashfulness	12	3.52	30	2.79	22	2.76	35	3.20
	Sears' data (in standard scores)							
Stinginess	20	.23	22	.02	12	—.29	43	—.01
Obstinacy	22	.37	21	—.29	12	—.49	42	.06
Disorderliness	11	.16	30	—.55	20	—.01	36	.42
Bashfulness	7	—.20	20	—.41	14	.06	19	.41

The three sets of results are in fairly close agreement. In all these sets of data, *non*insightful subjects who "had" opprobrious traits (Group A) tended to assign them to other people to a greater degree than did insightful subjects who had the traits (Group B). Also, in Groups C and D (the groups of subjects "not having" the opprobrious traits according to Sears' classification), the insightful subjects tended to assign the traits to other people in greater degree than did noninsightful subjects. Thus, although between-group differences were small and often not statistically significant, a faithful duplication of Sears' procedures produced similar results.

Table 3 shows correlations between average rating received by subjects and average rating they assigned to other persons, first for all subjects and then for insightful and noninsightful subjects separately. Again Sears' results

TABLE 2
t TESTS OF SIGNIFICANCE OF DIFFERENCES BETWEEN RATINGS ASSIGNED TO OTHERS BY MEMBERS OF INSIGHTFUL AND NONINSIGHTFUL GROUPS

Trait	"Having" the opprobrious trait A-B				"Not having" the opprobrious trait C-D			
	Diff.	σ_D	*df*	*t*	Diff.	σ_D	*df*	*t*
Fraternity members (in raw scores)								
Stinginess	.28	.17	22	1.65	.08	.22	30	.36
Obstinacy	.31	.23	22	1.35	.07	.13	30	.54
Disorderliness	—.01	.14	24	.07	.00	—	29	.00
Bashfulness	.00	—	23	.00	.10	.11	28	.91
Coeds (in raw scores)								
Stinginess	.17	.17	48	1.00	.29	.21	47	1.38
Obstinacy	.54	.26	43	2.08*	.32	.21	52	1.52
Disorderliness	.06	.17	43	.35	.51	.14	52	3.64***
Bashfulness	.73	.21	40	3.48**	.44	.15	55	2.93**
Sears' data (in standard scores)								
Stinginess	.21	.27	40	.78	.28	.28	53	1.00
Obstinacy	.66	.30	41	2.20*	.55	.39	52	1.41
Disorderliness	.71	.37	39	1.92	.43	.21	54	2.05
Bashfulness	.21	.42	25	.50	.35	.31	31	1.13

* $p < .05$.
** $p < .01$.
*** $p < .001$.
Note: In Sears' data, PE_D translated in σ_D by formula $\sigma_D = PE_D/.67$.

TABLE 3
CORRELATIONS BETWEEN MEAN RATINGS RECEIVED FROM OTHERS AND MEAN RATINGS ASSIGNED TO OTHERS

Trait	Whole group		Insightful subjects		Noninsightful subjects	
	n	*r*	*n*	*r*	*n*	*r*
Fraternity members						
Stinginess	56	.08	33	.00	23	.12
Obstinacy	56	—.19	37	—.27	19	—.06
Disorderliness	57	—.13	33	—.19	24	—.03
Bashfulness	57	.08	38	—.07	19	.22
Average		—.04		—.13		.06
Coeds						
Stinginess	99	.09	56	—.14	43	.32
Obstinacy	99	.16	54	—.09	45	.35
Disorderliness	99	.10	62	.06	37	.27
Bashfulness	99	—.12	65	—.27	34	.37
Average		.06		—.11		.33
Sears' data						
Stinginess	97	—.03	65	—.08	32	.09
Obstinacy	97	.01	63	—.15	34	.34
Disorderliness	97	—.35	66	—.46	31	.13
Bashfulness	60	—.32	39	—.34	21	—.22
Average		—.17		—.26		.08

are included for comparison, and again there is fairly close agreement. As in Sears' data, the correlations between rating received by insightful subjects and rating assigned by them were generally negative, while the analogous correlations for noninsightful subjects were not. It was this set of relationships that led Sears to suggest the mechanism he called "contrast formation."

Table 4 shows the intercorrelations among Stinginess, Obstinacy, and Orderliness—the three traits in the "anal syndrome." Shown also are intercorrelations of these ratings with ratings on the Bashfulness scale.

TABLE 4
CORRELATIONS AMONG MEAN RATINGS ON FOUR TRAITS

Trait	Stinginess	Obstinacy	Orderliness	Bashfulness
		Fraternity members		
Stinginess		.30	—.38	.56
Obstinacy			.01	—.16
Orderliness				—.48
		Coeds		
Stinginess		.48	.11	.23
Obstinacy			.04	—.09
Orderliness				.12
		Sears' data		
Stinginess		.37	.39	—
Obstinacy			.36	—
Orderliness				—

As far as the "anal" traits are concerned, agreement is poor—both between Sears' data and the present data and between the data from the Fraternity Members and the data from the Coeds. Certainly no strong evidence for an anal syndrome can be found. In fact, the simplest way to account for the relationships would seem to be in terms of a simple halo effect.

E. DISCUSSION

Rokeach (16) and others (14, 17) have pointed out an ambiguity created by the way Sears classified his subjects. Among those "having" the opprobrious traits, subjects were called "insightful" if their average rating of others was *lower* than the rating they assigned to themselves, while they were called "noninsightful" if their average rating of others was *higher* than their self-ratings. In the absence of a consistent difference in self-rating, this method of classification would automatically produce a higher average rating of others by the "noninsightful" subjects than by subjects in the "insightful" category.

At the other end of the scale, among those "not having" the opprobrious traits, the method of classification would force a similar difference in the op-

posite direction. The same artifact could also have produced the correlations, shown in Table 3, which led to the notion of "contrast formation."

An additional problem is created by the format of the rating scales. Each step on each scale had a specific label. The Stinginess scale, for example, read:

> 1. Generous, perhaps an easy mark. 2. Rather easygoing. 3. Sensible about use of possessions. 4. Cautious but not a tightwad. 5. Fairly careful about his rights as an owner. 6. Pretty tight about most things. 7. Very stingy.

Since subjects rated above average on this scale were all classified by Sears as "Stingy," and since the average score on the scale was about 3.3, the group called "Stingy" in Sears' classification included some subjects who were classified by their peers as "Sensible about use of possessions," and all subjects classified as "Cautious but not a tightwad" and "Fairly careful of his rights as an owner"—as well as subjects who, according to the mean rating they received, were actually perceived as stingy.

It seems hard to justify this classification. The theory the experiment was designed to test requires that the person doing the projecting actually possesses the opprobrious trait, not some mild degree of its desirable opposite. When the present data were treated by means of Sears' method of classification, a substantial number of subjects who did not have the opprobrious trait (according to ratings by their peers) were classified as possessing it.

The same problem occurs with the ratings on the other variables. In each case Sears' method of classification placed in the "Obstinate," "Disorderly," or "Bashful" category a substantial number of subjects who were rated by their peers as *not* having the opprobrious trait in question.

Sears' data were presented in standard score form; so it is impossible to be sure that they incorporated the same contradiction. But since raters generally tend to give favorable ratings, especially when evaluating friends, it seems reasonable to suppose that a similar contradiction existed also in Sears' raw data.

F. Reanalysis

To find out whether a literal interpretation of the meaning of the scale steps would change the conclusions drawn from the data, all subjects were reclassified according to the following criteria: Subjects who had been given ratings of 5, 6, or 7 by at least 50 per cent of their peers were classified as having the opprobrious trait. (All the scales were oriented so that scores of 5, 6, or 7 were unfavorable.) Subjects who were given ratings of 1, 2, or 3 by

at least 50 per cent of their peers were classified as having the desirable trait at the opposite end of the rating scale.

Since it seemed desirable to limit the analysis to subjects who were perceived by their peers as actually possessing the traits, subjects who were not rated on one side or the other of the scale by at least 50 per cent of the raters were dropped from the analysis.

Subjects who were given ratings of 1, 2, or 3 on a trait by at least 50 per cent of their peers—and who gave themselves a 1, 2, or 3 rating—were reclassified as "insightful"; subjects who were given ratings of 1, 2, or 3 by at least 50 per cent of their peers, and gave themselves a 4, 5, 6, or 7, were reclassified as "noninsightful." A similar subclassification was made of subjects rated by their peers at 5, 6, or 7. If their self-ratings agreed with the peers' verdict, they were called "insightful." They were called "noninsightful" otherwise.

This method of classification all but demolished the A and B categories—the categories of subjects "having" the opprobrious traits according to their peers' ratings. The demolition was so nearly complete that not enough A's and B's remained to permit meaningful analysis.

However, the new classification method left sizable groups of C's and D's. These were subjects who, according to peer opinion, had traits at the desirable ends of the rating scales. The D's were "insightful" in that they also gave themselves desirable ratings, and the C's were "noninsightful" in that they did not.

This new classification (Table 5) reversed Sears' finding. The average rating assigned to others by the "noninsightful" subjects was regularly, and in a few cases significantly, higher than the average rating assigned to others by subjects in the "insightful" category. Table 6 shows that the new classification also destroyed the pattern of negative correlations which had led to the concept of "contrast formation."

This finding is similar to results reported by Rokeach (16). Rokeach used a rating scale quite different from the scales used by Sears, but when he followed Sears' method of analysis he found a pattern in the data similar to the pattern Sears had found. When he reanalyzed the data by a method which eliminated the spurious correlation, the pattern disappeared.

Taken together, Rokeach's results and the present results intensify doubts about the advisability of accepting and making use of Sears' original conclusions. If "projection" and "contrast formation" are names for ways humans generally behave, confirming evidence should not perish so easily. It ought to present itself when the data are submitted to any reasonable analysis.

The present results also force much the same conclusion with respect to the correlations Sears found among the traits of the "anal syndrome." Even in Sears' data the correlations were low. In the present data several of them

TABLE 5
MEAN SCORES ASSIGNED TO OTHERS
(Subjects reclassified)

Trait	Noninsightful C n	M	σ	Insightful D n	M	σ	Diff.
			Fraternity members				
Stinginess	9	3.53	.57	35	3.07	.46	.46**
Obstinacy	16	3.41	.40	22	3.31	.29	.10
Disorderliness	8	3.68	.19	13	3.57	.30	.11*
Bashfulness	9	3.13	.40	31	3.08	.24	.05
			Coeds				
Stinginess	18	3.04	.59	72	2.86	.58	.18
Obstinacy	12	3.24	.98	65	3.07	.74	.17
Disorderliness	20	3.57	.59	44	3.28	.56	.29*
Bashfulness	27	3.23	.72	52	3.09	.58	.14

* $p < .05$ by simple analysis of variance.
** $p < .01$ by simple analysis of variance.

TABLE 6
CORRELATIONS BETWEEN MEAN RATINGS RECEIVED FROM OTHERS AND MEAN RATINGS ASSIGNED TO OTHERS
(Subjects reclassified)

Trait	Whole group n	r	Insightful subjects n	r	Noninsightful subjects n	r
			Fraternity members			
Stinginess	44	.13	35	.28	9	—.58
Obstinacy	42	.02	26	.01	16	.15
Disorderliness	23	—.21	16	—.02	7	—.74
Bashfulness	41	—.14	32	—.13	9	—.36
			Coeds			
Stinginess	94	.10	71	.08	23	—.01
Obstinacy	90	.15	67	.06	23	.15
Disorderliness	71	.10	46	.23	25	—.20
Bashfulness	86	—.11	53	—.17	33	—.11

Note: The correlation data in Table 6 include ratings by subjects in the A and B categories. These subjects had been excluded from the data in Table 5 because the subgroups they formed were too small to permit meaningful analysis.

reversed. The evidence does not suggest the presence of a clear-cut and dependable trait cluster.

G. CONCLUDING DISCUSSION

These findings underscore the rule that research results should not be treated as established fact until they have been confirmed by repetition. The original

study appeared when psychological interest in psychoanalytic mechanisms was high. The results were widely accepted, and were perpetuated through repeated mention in secondary sources. Published studies which cast doubt upon the generality and the validity of the findings were almost ignored. Now, after the study has influenced theory and research for 25 years, the weight of negative evidence has become all but decisive.

H. Summary

Sears' classic study of projection was replicated twice—once with a group of college fraternity members serving as subjects, and once with a group of college coeds. In both cases the results agreed with Sears' results when the data were analyzed according to Sears' method. However, when the data were reanalyzed with a method which eliminated a possibly spurious correlation, the results reversed. The implications of this reversal, and the relations between it and the findings of other studies of projection, are discussed.

In an additional analysis of data from his projection study, Sears had intercorrelated ratings on scales intended to measure Obstinacy, Stinginess, and Orderliness, and had found evidence for an "anal syndrome." A similar analysis of data from the present study produced no evidence of an anal trait cluster.

References

1. Berkowitz, L. The judgemental process in personality functioning. *Psychol. Rev.*, 1960, **67**, 130-142.
2. Bruner, J. S., & Tagiuri, R. The perception of people. In G. Lindzey (Ed.), *Handbook of Social Psychology: Vol. 2. Special Fields and Applications*. Cambridge, Mass.: Addison-Wesley, 1954.
3. Cattell, R. B. Personality and Motivation Structure and Measurement. Yonkers, N. Y.: World Book, 1957.
4. Child, I. L. Socialization. In G. Lindzey (Ed.), *Handbook of Social Psychology: Vol. 2. Special Fields and Applications*. Cambridge, Mass.: Addison-Wesley, 1954.
5. Frenkel-Brunswik, E. Contributions to the analysis and synthesis of knowledge. *Proc. Amer. Acad. Arts & Sci.*, 1954, **80**, 271-350.
6. Goldings, H. On the avowal and projection of happiness. *J. Personal.*, 1954, **23**, 30-47.
7. Hilgard, E. R. Introduction to Psychology (3rd ed.) New York: Harcourt, Brace & World, 1962.
8. Krech, D., & Crutchfield, R. S. Elements of Psychology. New York: Knopf, 1958.
9. Lehner, G. F. J. Some relationships among personal adjustment self-ratings, self-scores, and assigned "average" scores. *J. of Psychol.*, 1960, **50**, 333-337.
10. Lemann, T. B., & Solomon, R. L. Group characteristics as revealed in sociometric patterns and personality ratings. *Sociometry*, 1952, **15**, 7-90.
11. Leuba, C. L. Man: A General Psychology. New York: Holt, Rinehart & Winston, 1961.

12. Morgan, C. T. Introduction to Psychology (2nd ed.) New York: McGraw-Hill, 1961.
13. Munn, N. L. Psychology (4th ed.) Boston: Houghton Mifflin, 1961.
14. Murstein, B. I. Studies in projection: A critique. *J. Proj. Tech.*, 1957, **21**, 129-136.
15. Rogers, D. The Psychology of Adolescence. New York: Appleton-Century-Crofts, 1962.
16. Rokeach, M. Studies in beauty: II. Some determiners of the perception of beauty in women. *J. Soc. Psychol.*, 1945, **22**, 155-169.
17. Rosenthal, R. The experimental induction of the defense mechanism of projection. *J. Proj. Tech.*, 1959, **23**, 357-364.
18. Sears, R. R. Experimental studies of projection: I. Attributions of traits. *J. Soc. Psychol.*, 1936, **7**, 151-163.
19. ———. Survey of objective studies of psychoanalytic concepts. *Soc. Sci. Res. Coun. Bull.*, 1943, No. 51.
20. Smith, H. C. Personality Adjustment. New York: McGraw-Hill, 1961.
21. Taft, R. The ability to judge people. *Psychol. Bull.*, 1955, **52**, 1-23.
22. Wickens, D. D., & Meyer, D. R. Psychology (2nd ed.) New York: Holt, Rinehart & Winston, 1961.
23. Williams, G. W. Psychology: A First Course. New York: Harcourt, Brace & World, 1960.

Department of Psychology
Rutgers, The State University
Newark 2, New Jersey

The Journal of Social Psychology, 1964, **64**, 181-184.

BOOKS

Now that there is a special APA journal completely devoted to the publication of book reviews, it is no longer necessary that other journals emphasize such publication. It has always been our conviction that book reviews are a secondary order of publication unless they carry information that is as equally important as the book. However, the publication of book titles is a very important service, and we shall continue to render that service.

In any given issue of this journal, we may continue to publish one or more book reviews, but we do not consider such publication a major function of this journal. In line with this policy, we can no longer pay for such manuscripts.

BOOKS RECENTLY RECEIVED

ANDERSON, A. R., *Ed.* Minds and Machines. Englewood Cliffs, N. J.: Prentice-Hall, 1964. Pp. 114.

ARGYRIS, C. Integrating the Individual and the Organization. New York: Wiley, 1964. Pp. 330.

ARONS, L., & MAY, M. A., *Eds.* Television and Human Behavior: Tomorrow's Research in Mass Communication. New York: Appleton-Century-Crofts, 1963. Pp. 308.

BANDURA, A., & WALTERS, R. N. Social Learning and Personality Development. New York: Holt, Rinehart & Winston, 1963. Pp. 329.

BARTELS, R., *Ed.* Ethics in Business. Columbus, Ohio: Ohio State Univ., Bur. Bus. Res., 1963. Pp. 180.

BARTON, R. F. Autobiographies of Three Pagans in the Philippines. New Hyde Park, N. Y.: University Books, 1963. Pp. 271.

BASSETT, W. T. Counseling the Childless Couple. Englewood Cliffs, N. J.: Prentice-Hall, 1963. Pp. 139.

BAUER, R. A., POOL, I., & DEXTER, L. A. American Business and Public Policy, the Politics of Foreign Trade. New York: Atherton, 1963. Pp. 499.

BENNETT, J. Rationality. New York: Humanities Press, 1964. Pp. 123.

BERDIE, R. F., LAYTON, W. L., SWANSON, E. O., & HAGANAH, T. Testing in Guidance and Counseling. New York: McGraw-Hill, 1963. Pp. 238.

BLOOM, S. W. The Doctor and His Patient. New York: Russell Sage, 1963. Pp. 270.

BORING, E. C. History, Psychology, & Science: Selected Papers. New York: Wiley, 1963. Pp. 251.

BRADFORD, L. P., GIBB, J. R., & BENNE, K. D., *Eds.* T-Group Theory and Laboratory Method. New York: Wiley, 1964. Pp. 498.

BRECKENRIDGE, M. E., & MURPHY, M. N. Growth and Development of the Young Child (7th ed.) Philadelphia: Saunders, 1963. Pp. 564.

BROWN, R. Explanation in Social Science. Chicago: Aldine, 1963. Pp. 198.

CAIN, A. H. Help Yourself to Health—Through Will Power. Englewood Cliffs, N. J.: Prentice-Hall, 1963. Pp. 180.

CAMERON, N. Personality Development and Psychopathology: A Dynamic Approach. Boston: Houghton Mifflin, 1963. Pp. 793.

CARROLL, H. A. Mental Hygiene: The Dynamics of Adjustment. Englewood Cliffs, N. J.: Prentice-Hall, 1964. Pp. 408.

CARSTAIRS, G. N. This Island Now: The Surge of Social Change in the Twentieth Century. New York: Basic Books, 1963. Pp. 103.

CASRIEL, D. So Fair a House: The Story of Synanon. Englewood Cliffs, N. J.: Prentice-Hall, 1963. Pp. 224.

CATON, C. E. Philosophy and Ordinary Language. Urbana: Univ. Illinois Press, 1963. Pp. 246.

COOPER, J. B., & MCGAUGH, J. L. Integrating Principles of Social Psychology. Cambridge, Mass.: Schenkman, 1963. Pp. 320.

COSTELLO, T. W., & ZALKIND, S. S. Psychology in Administration. Englewood Cliffs, N. J.: Prentice-Hall, 1963. Pp. 500.

CROCKETT, R., SANDISON, R. A., & WALK, A., *Eds.* Hallucinogenic Drugs and Their Psychotherapeutic Use. Springfield, Ill.: Charles C Thomas, 1963. Pp. 191.

CRUICKSHANK, W. M., *Ed.* Psychology of Exceptional Children and Youth. Englewood Cliffs, N. J.: Prentice-Hall, 1963. Pp. 623.

CULBERTSON, J. T. The Minds of Robots: Sense Data, Memory Images, and Behavior in Conscious Automata. Urbana: Univ. Illinois Press, 1963. Pp. 466.

CYERT, R. M., & MARCH, J. G. A Behavioral Theory of the Firm. Englewood Cliffs, N. J.: Prentice-Hall, 1963. Pp. 332.

DAVIES, J. C. Human Nature in Politics. New York: Wiley, 1963. Pp. 403.

DELACATO, C. H. The Diagnosis and Treatment of Speech and Reading Problems. Springfield, Ill.: Charles C Thomas, 1963. Pp. 188.

DEUTSCH, K. W. The Nerves of Government. New York: Free Press of Glencoe, 1963. Pp. 316.

DORSON, R. M. Buying the Wind. Chicago: Univ. Chicago Press, 1964. Pp. 574.

DUDYCHA, G. J. Applied Psychology. New York: Ronald Press, 1963. Pp. 468.

EGG, M. When a Child Is Different. New York: John Day, 1964. Pp. 155.

ELLIS, A. Sex and the Single Man. New York: Lyle Stuart, 1963. Pp. 318.

ELLIS, A. The Intelligent Woman's Guide to Man-Hunting. New York: Lyle Stuart, 1963. Pp. 320.

FARBER, S. M., & WILSON, R. H. L., *Eds.* The Potential of Woman. New York: McGraw-Hill, 1963. Pp. 328.

FARBEROW, N. L., *Ed.* Taboo Topics. New York: Atherton, 1963. Pp. 140.

FEIBLEMAN, J. K. Mankind Behaving: Human Needs and Material Culture. Springfield, Ill.: Charles C Thomas, 1963. Pp. 210.

FINE, B. Stretching Their Minds. New York: Dutton, 1964. Pp. 255.

FLAMENT, C. Applications of Graph Theory to Group Structure. Englewood Cliffs, N. J.: Prentice-Hall, 1963. Pp. 142.

FRASER, J. M. Industrial Psychology. New York: Macmillan, 1963. Pp. 181.

FROMM, E. The Dogma of Christ and Other Essays on Religion, Psychology and Culture. New York: Holt, Rinehart & Winston, 1963. Pp. 212.

GARAN, D. B. The Paradox of Pleasure and Relativity. New York: Philosophical Library, 1963. Pp. 499.

GARRISON, K. C., KINGSTON, A. J., & MCDONALD, A. S. Educational Psychology. New York: Appleton-Century-Crofts, 1964. Pp. 544.

GLAZER, N., & MOYNIHAN, D. P. Beyond the Melting Pot: The Negroes, Puerto Ricans, Jews, Italians, and Irish of New York City. Cambridge, Mass.: M. I. T. Press & Harvard Univ. Press, 1963. Pp. 360.

GOLDSTEIN, A. P. Therapist-Patient Expectancies in Psychotherapy. New York: Pergamon, 1962. Pp. 141.

GOLDSTEIN, K. The Organism. Boston: Boston Press, 1963. Pp. 533.

GOODE, W. J. World Revolution and Family Patterns. New York: Free Press of Glencoe, 1963. Pp. 432.

GOODENOUGH, W. H. Cooperation in Change. New York: Russell Sage, 1963. Pp. 543.

GOTTSEGEN, M. G., & GOTTSEGEN, O. B., *Eds.* Professional School Psychology (Vol. II). New York: Grune & Stratton, 1963. Pp. 354.

GRAETZ, H. R. The Symbolic Language of Vincent Van Gogh. New York: McGraw-Hill, 1963. Pp. 315.

GREEN, B. F., JR. Digital Computers in Research: An Introduction for Behavioral and Social Scientists. New York: McGraw-Hill, 1963. Pp. 333.

GRINDER, R. E., *Ed.* Studies in Adolescence. New York: Macmillan, 1963. Pp. 524.

GRINKER, R. R., & SPIEGEL, J. P. Men Under Stress. New York: McGraw-Hill, 1963. Pp. 484.

GROSSACK, M. M., *Ed.* Mental Health and Segregation. New York: Springer, 1963. Pp. 247.

GUETZKOW, H., ALGER, C. F., BRODY, R. A., NOEL, R. C., & SNYDER, R. C. Simulation in International Relations: Developments for Research and Teaching. Englewood Cliffs, N. J.: Prentice-Hall, 1963. Pp. 248.

HAFEZ, E. S. E., *Ed.* The Behavior of Domestic Animals. Baltimore, Md.: Williams & Wilkins, 1962. Pp. 619.

HALLER, M. H. Eugenics: Hereditarian Attitudes in American Thought. New Brunswick, N. J.: Rutgers Univ. Press, 1963. Pp. 264.

HANFMANN, E., JONES, R. M., BAKER, E., & KOVAR, L. Psychological Counseling in a Small College. Cambridge, Mass.: Schenkman, 1963. Pp. 131.

HARVEY, O. J., *Ed.* Motivation and Social Interaction: Cognitive Determinants. New York: Ronald Press, 1963. Pp. 332.

HASTINGS, D. W. Impotence and Frigidity. Boston: Little, Brown, 1963. Pp. 144.

HECKEL, R. V., & JORDAN, R. M. Psychology: The Nurse and the Patient. St. Louis: Mosby, 1963. Pp. 305.

HOLLANDER, E. P., & HUNT, R. G., *Eds.* Current Perspectives in Social Psychology. New York: Oxford Univ. Press, 1963. Pp. 557.

HUMPHREY, O., & COXON, R. V. The Chemistry of Thinking. Springfield, Ill.: Charles C Thomas, 1963. Pp. 148.

ISAACSON, R. L., *Ed.* Basic Readings in Neuropsychology. New York: Harper & Row, 1964. Pp. 429.

KAPLAN, B., *Ed.* The Inner World of Mental Illness. New York: Harper & Row, 1964. Pp. 467.

KIELL, N. The Universal Experience of Adolescence. New York: International Univs. Press, 1964. Pp. 942.

KLINEBERG, O. The Human Dimension in International Relations. New York: Holt, Rinehart & Winston, 1964. Pp. 173.

KOPPITZ, E. M. The Bender Gestalt Test for Young Children. New York: Grune & Stratton, 1964. Pp. 195.

LAMBERT, W. W., & LAMBERT, W. E. Social Psychology. Englewood Cliffs: Prentice-Hall, 1964. Pp. 120.

LEHNER, G. F. J., & KUBE, E. The Dynamics of Personal Adjustment. Englewood Cliffs, N. J.: Prentice-Hall, 1964. Pp. 481.

LUCIA, S. P., *Ed.* Alcohol and Civilization. New York: McGraw-Hill, 1963. Pp. 415.

MATTHEWS, L. H., & KNIGHT, M. The Senses of Animals. New York: Philosophical Library, 1963. Pp. 240.

MAY, E. The Wasted Americans. New York: Harper & Row, 1964. Pp. 227.

MEDNICK, S. A. Learning. Englewood Cliffs, N. J.: Prentice-Hall, 1964. Pp. 118.

MURSTEIN, B. I. Theory and Research in Projective Techniques. New York: Wiley, 1963. Pp. 385.

PACKARD, V. The Naked Society. New York: David McKay, 1964. Pp. 369.

RUITENBECK, H. M., *Ed.* Psychoanalysis and Contemporary American Culture. New York: Dell, 1964. Pp. 436.

SCHEERER, C., *Ed.* Cognition. New York: Harper & Row, 1964. Pp. 226.

SCHOFIELD, W. Psychotherapy: The Purchase of Friendship. Englewood Cliffs, N. J.: Prentice-Hall, 1964. Pp. 186.

SIBLEY, E. The Education of Sociologists in the United States. New York: Russell Sage, 1963. Pp. 218.

TOMKINS, S. S. Affect Imagery Consciousness (Vol. I). New York: Springer, 1962. Pp. 522.

TOMKINS, S. S. Affect Imagery Consciousness (Vol. II). New York: Springer, 1963. Pp. 580.

TOMKINS, S. S., & MESSICK, S., *Eds.* Computer Simulation of Personality. New York: Wiley, 1963. Pp. 325.

VAN DEN HAAG, E. Passion and Social Constraint. New York: Stein & Day, 1963. Pp. 368.

WARREN, R. L. Social Research Consultation. New York: Russell Sage, 1963. Pp. 163.

WERNER, H., & KAPLAN, B. Symbol Formation. New York: Wiley, 1963. Pp. 530.

WHITLOCK, F. A. Criminal Responsibility and Mental Illness: London: Butterworths, 1963. Pp. 156.

WINCH, R. F. The Modern Family (rev. ed.) New York: Holt, Rinehart & Winston, 1963. Pp. 782.

$30.00 per year
$15.00 per volume
Single Numbers $7.50

BIMONTHLY
Three volumes per year

December, 1964
Volume 64, Second Half

Founded in 1929 by John Dewey and Carl Murchison

THE JOURNAL OF SOCIAL PSYCHOLOGY

If this space should be unstamped, this is the regular library edition. But if this space is stamped with a designating title, this is a special edition, sold under the restrictions of a bilateral contract, and may not be resold for a period of five years from the date of publication.

DECEMBER, 1964

(Manuscripts are printed in the order of final acceptance)

Conflict situations and delinquent solutions 185
By SHLOMO SHOHAM

Guilt and resistance to temptation in Japanese- and White-Americans . . 217
By ROBERT E. MCMICHAEL AND ROBERT E. GRINDER

Male-dominant and equalitarian attitudes in Japanese, Japanese-American, and Caucasian-American students 225
By ABE ARKOFF, GERALD MEREDITH, AND SHINKURO IWAHARA

Primary and secondary process as reflections of catastrophe: The political cartoon as an instrument of group emotional dynamics 231
By IRVING R. STUART

Experimental group therapy in a senior high school 241
By N. D. CARLSON AND GERALD WEINBERGER

Creativity and sociometric choice among adolescents 249
By KAORU YAMAMOTO

(OVER)

Copyright, 1964, by The Journal Press
Provincetown, Massachusetts, U. S. A.
All rights reserved

Published at 35B New St., Worcester, Mass.
Second-class postage paid at Worcester, Mass.

Knowledge, exposure, and personal characteristics 263
By Morton Goldman, Leon H. Warshay, and Ellen H. Biddle

Emotional control as a factor in productivity of small interaction groups . 275
By Robert D. Boyd

Validations in communicative behavior of attitude-scale measures of dogmatism 287
By Franklyn S. Haiman and Donald F. Duns

Vocational interest scores and patterns of aesthetic preference . . . 299
By Robert H. Knapp and Edward G. Hoffman

Some sociopsychological observations in a nudist camp: A preliminary study . 307
By Lawrence Casler

Personal and social characteristics of antarctic volunteers 325
By E. K. Eric Gunderson

Effects of candidate support and election results upon attitudes to the presidency 333
By E. Mavis Hetherington and Mary Carlson

A factorial study of sighted people's attitudes toward blindness . . . 339
By Martin Whiteman and Irving F. Lukoff

Social participation and some demographic variables 355
By Mary Bach Kievit

Financial incentives and group decision in motivating change 369
By Norman R. F. Maier and L. Richard Hoffman

Do parapsychologists really believe in ESP? 379
By Warner R. Wilson

BOOKS RECENTLY RECEIVED 391

The Journal of Social Psychology, 1964, 64, 185-215.

CONFLICT SITUATIONS AND DELINQUENT SOLUTIONS*

Institute of Criminology, Bar-Ilan University, Ramat-Gan, Israel

SHLOMO SHOHAM

Thou shalt not murder: but tradition approves all forms of competition (68).

A. INTRODUCTION

Sociological theories of crime causation have reached a fair degree of integration.

Criminologists have offered theoretical explanations for the formation of criminal subcultures, the processes by which an individual learns criminal behavior by association with criminal groups and the effect of some factors on the overall crime rate in a given community.[1]

Ohlin and Cloward's recent formulation of their theory on criminal gang formation (9) incorporated, *inter alia*, the theories (with significant modifications) of Albert Cohen on the discrepancy between middle-class norms and the achievement of lower-class boys (10); of Whyte as to types of socio-economic aspirations of lower-class boys (69); of Kobrin as to the degree of integration between the conventional and the criminal value systems in delinquency areas (29); and of Merton as to the various types of personal anomie resulting from the malintegration of cultural goals and the institutionalized norms which regulate their achievement (34).

The learning process by means of which an individual associates with a criminal group, internalizes its values and conduct norms, and studies the various techniques of crime was explained presumably by Sutherland's Differential Association Theory (58). This theory was recently modified by Glaser, who incorporated therein the playing of criminal roles and identification with criminal images (20). Sutherland considered his theory as describing the necessary bridge which links the individual with the criminal group—the latter being not only the absorber but the actual source of criminal behavior, because crime is basically a group phenomenon and the "lone-wolf" operator—who plans his crimes by himself, invents his own technique, and

* Received in the Editorial Office on March 3, 1964, and given special consideration in accordance with our policy for cross-cultural research. Publication delayed one issue for technical reasons. Copyright, 1964, by The Journal Press.

[1] For a distinction between the various theoretical levels of crime causation, see the author (52).

actually "decided" to become an offender without associating with other offenders—is nothing but a myth. Recent empirical findings, indeed, uphold the view that even at a very early age the onset of delinquency is linked to the companionship of the potential delinquent with other delinquent children (14).

It is generally agreed, however, that the differential association process does not apply to the relatively few types of offenders who are in an advanced stage of psychosis, many paraphiliacs, and some compulsive neurotics whose offence is the main manifestation of their disease. Apart from the theoretical expositions of the criminal subculture and the individual's association with it, there are numerous theoretical formulations (many of them upheld by research findings) of the predisposing factors in a given society which are significantly linked (statistically) with the rates for the various offences in a given time. These factors are, therefore, also associated with the probability that a certain individual who is exposed to these predisposing factors will commit certain offences or will be "recruited" to crime as a way of life. The main predisposing factors are considered to be, *inter alia*: inadequate primary socialization by the family because one or more of its members are offenders; or the family has been disintegrated by divorce, death, etc.; or domestic relations are tense, irregular, and unsuitable (21, 39).

Economic factors are associated with the type and the manifestation of crime in a given community. It should be pointed out that modern criminological theory does not vacillate any more in the present context between the two extremes of the ancient controversy: whether crime is caused by need[2] or by greed (15, 40). Modern theory is more or less in line with Cressey's statement that "the kind of crime, as contrasted with the fact of crime, is very significantly related to economic status. One's position in the economic structure determines opportunities, facilities, and the requisite skills for specialized crimes" (58, p. 195). The significance of the various ecological factors and mainly the distribution of crime and the location of criminal groups in the various city areas has been intensively studied by the so-called Chicago School of Criminology.[3] The various aspects of social change caused by industrialization, urbanization, and especially immigration have been studied in order to establish the presumable association of "culture-conflict"; i.e., the clash among different conduct-norms caused by a certain aspect of social change and the incidence of crime rates in a given community (45, 51).

[2] Adhered to by Marxists. See Bonger (4).

[3] Largely linked with the works of Shaw and McKay (48). See other references in T. Morris (36).

The significance of the various stages of social disorganization and especially the relative disintegration of the normative system of a society (i.e., its state of anomie[4] to crime causation on the social level) has been extensively studied and documented (3, 11, 12, 34). The schema of social factors of crime causation may be regarded, therefore, as a "positive-feedback" circuit moving from the amorphous mass of predisposing factors through the differential association-identification process to the criminal subculture which feeds in turn many of the predisposing factors on the social level, such as criminal family members, broken homes (due to long prison terms of the head of the family), and ecological factors—i.e., higher incidence of criminal gangs in the neighborhood, etc. Our first task, in the present context, is to examine the causative chain in his schema and to determine whether the links are indeed entwined or whether there are gaps in the schema so that the causative chain is no chain at all—or to borrow Glaser's phrasing, the causal chain becomes "disconnected" (20).

B. The Gap

Sutherland, while formulating his differential association theory, specified some theoretical levels in criminology and proceeded from one level while disregarding the other levels. He stated, *inter alia*, that:

> [another] procedure for putting order into criminological knowledge is differentiation of levels of analysis. This means that the problem is limited to a particular part of the whole situation, largely in terms of chronology. The causal analysis must be held at a particular level. For example, when physicists stated the law of falling bodies, they were not concerned with the reasons why a body began to fall except as this might affect the initial momentum. . . . In the heterogeneous collection of factors associated with criminal behavior, one factor often occurs prior to another factor, but a theoretical statement about criminal behavior can be made without referring to those early factors. By holding the analysis at one level, the early factors are combined with or differentiated from later factors or conditions, thus reducing the number of variables which must be considered in a theory (58 p. 75).

This procedure of holding the causal theory at one level only has been criticized as not being in line with the scientific method because, according to Earl Russel, the main difference between the scientist and the mystic is that the former pursues in his method a continuous chain of causation (or association, as the case may be) whereas the latter does not [See Glaser (20)].

[4] This should be differentiated from Merton's description of personal anomie mentioned earlier (34).

Sutherland apparently did not try to explain the "recruiting" stage which deals with the crucial question: What are the causes on the *personal level* for the fact that some adults and children are caught in the differential association process, which may lead them ultimately to membership in the criminal subculture, while other persons are not?

Glaser tried to close this theoretical gap by modifying Sutherland's theory and introducing the concepts of "role playing" and identification with criminal images, but he failed to note the pertinent question: *Why* does a person act a criminal role and *why* does he identify himself with criminal images? Some etiological links are still missing and should be supplied if our goal is a continous causal chain from the personality level to the criminal group.

Cohen, and Ohlin and Cloward, also dealt with some pressures towards delinquency while formulating their theories on the formation of criminal subcultures. With Cohen, these pressures are created largely as a result of the inability of boys from the lower classes to achieve the status and standard of intellectual and professional performance prescribed by the reigning norms of the middle class. The criminal subculture affords, thus, to the lower-class boy many criteria of the status which is not available, or relatively scarcely allotted, to him by the middle-class normative system (10).

Ohlin and Cloward study these pressures more deeply and elaborately and they attribute them, *inter alia*, to the discrepancy between the individual's expectations justified by his training, ability, etc., and the objective availability of means to fulfill these expectations. Another main pressure towards a delinquent solution is the barrier to upper mobility of racial, ethnic, and minority-group discrimination (9). Here again, these pressures are indeed relevant to the causal chain, but an important link is still missing. This link relates to the *attitude of the individual towards the restraining norm (in the present context the norms of the criminal law), to the degree the individual internalized the restraining norm as a personality element, and to what process is necessary to overcome or "neutralize" the restraining force of the norm or norms (in case these have been internalized) on the personality level.*

Without this link, any causal schema of criminal behavior (or, for that matter, deviant or rebellious behavior, is bound to remain incomplete.

The starving Hindu has all the reasons (and all the pressures) in the world to slay one of the holy cows which roam the streets and to fry himself a steak, but would not dream of doing so because of the deeply internalized religious norm forbidding it (58, p. 195). The same inhibition is even more apparent with the masses of religious dissenters, "freedom fighters," and

rebels throughout the ages who underwent extreme torture and death but did not act contrary to a deeply internalized set of norms.

C. Some Clarifications

The whole subject of regulating human behavior by norms is, indeed, in the realm of social psychology, although the study of this subject in conjunction with problems relating to criminology or social deviation as a whole has been quite meagre.[5]

Another preliminary question, that should be dealt with in the present context as having special significance for criminology, is whether the criminal law norms have a *special behavioral* (as distinguished from their legal) significance which justifies a separate theoretical treatment from other social norms.

The criminal law norms are, indeed, different in kind from other social norms in *the method in which they are liable to be enforced and in the consequences of their enforcement.* The punitive element in the sanction of the legal norm makes the latter a unique social norm which stands on an altogether different level from the norms sanctioned by ridicule, scorn, gossip, or even social ostracism. The ritualistic elements in the criminal procedure, the special setting of the courtroom, the necessity to plead guilty or not guilty, the formal conviction, the publicity that ensues, and the stigma of the convict which usually brands him with a permanent mark of Cain make the criminal law norm unique. Courts of law are of the most important social institutions in every society. The reaction of most people to a summons to appear in court as a defendant varies from morbid fear to more than mild excitement. The criminal trial in which violators of legal norms *must* participate (if caught, of course) makes the criminal law norm a unique social norm irrespective of the severity of sanction specified for the violation of that norm.

A recent sociopsychological theoretical systematization of the processes leading to conformity to social norms analyzes the transmission and enforcement of norms by the group (norm sending) and the degree to which the norms have been received and internalized by the individual (60). The norm-sending process requires first of all *a statement by the group* as to the desired behavior and the consequences to the individual if he does not comply. The group should, then, maintain *surveillance* over the person in order to determine the extent (if any) of his compliance to the norm and, lastly, the group should apply *sanctions* to noncomplying individuals.

[5] For an initial treatment of this subject with a criminological outlook, see Sellin (46, p. 42 *et seq.*).

The degrees of conformity to the norm by the individual are graded from mere *compliance,* where the individual is induced to conform by constant surveillance and by threat of (negative—i.e., depriving) sanction, to *identification,* where conforming behavior is induced by (positive—i.e., rewarding) sanction and conformity becomes, thus, autonomously rewarding to the most complete conformity which is the *internalization* of the norm by the individual. Then surveillance and sanction are not necessary, because the internalized norm, when incorporated by the individual as a personality element, becomes "just," "right," and "true." This grading reveals the relative inefficacy of repressive criminal policies which base their presumable strength mainly on the severity of punishment and may achieve (if at all) mere compliance. This was aptly phrased by Rousseau who said: "The strongest is never strong enough to be always the master, unless he transforms strength into right and obedience into duty" (43, p. 6).

This description of the norm-sending and norm-receiving processes may be adopted for our present purposes. We should bear in mind, however, that the norms of the criminal law are somewhat unique both from norm-sending and norm-receiving aspects. We have already pointed out that the norms of the criminal law are different from other social norms in their surveillance (police and other crime-control agencies); enforcement (arrest, courts); and sanction (prison, fines, and other penal methods). They have thus not only a legal but also a special behavioral significance.

The norm-sending process concerning the criminal law norms is also unique in the formal way the rules are stated and the organ which states them—be it the sovereign, the dictator, or the legislature in a democratic government.

This necessitates also different analyses for juvenile delinquents and adult offenders, because with juveniles the norm-sending process is invariably accomplished (if at all) through the various socializing agencies (mainly through the family, school, church, youth movements, etc.); whereas, with adults, the norm-sending is supposed to be directly from the legislature to subjects or citizens of the state. The identification stage of norm-receiving may not be significant with adults insofar as it is based on *positive* sanction—i.e., reward for conformity—because people are not rewarded and cuddled for law obedience, but are punished only when breaking it.

Our main hypothesis in this paper is, therefore, that the missing gap in the theoretical schema of crime causation lies in the area (hitherto scantily explored by criminologists) of social psychology which tries to explain the conformity (or nonconformity) of an individual to group norms. The degree

of conformity to legal norms—i.e., the extent to which the norm has been internalized by a certain individual [because of the pressures which enhance or injure the legitimacy imputed by the individual to the internalized norm, and the efficacy of the sanction to enforce compliance by a certain individual (49, 51)]—is determined on the group level by the efficacy of the norm-sending process with its three components (statement of the rule, surveillance, and application of sanctions) and on the personal level by the norm-receiving process with its three stages (compliance, identification, and internalization).

The norm-sending process may be plagued by conflict situations—i.e., two or more inconsistent rules governing the same factual situation (*as defined by the individual*). These conflict situations may appear in all three stages of the norm-sending process. The extent and the severity of these conflict situations (which could be eventually expressed quantitatively) may determine the weakness or strength of a certain criminal law norm to regulate the relevant behavior of an individual[6] and indicate thus the extent to which this individual is ready and ripe for the differential association and differential identification processes which may lead him to crime as a way of life. This hypothesis, if found to be correct by empirical proof, might afford a useful clue to the crucial question in criminological theory; i.e., that even in the worst of slums plagued by poverty, bad living conditions, criminal gangs, prostitutes, and dope peddlers, only some boys become delinquent whereas a far greater number remain law-abiding.

D. Conflict Situations in the Norm-sending Process

The primary socializing agencies. The so-called "criminal family" in which one or more members of the family are criminal does not afford theoretical difficulties in the present context. If the child in his formative years has ample opportunity to absorb criminal values, learn crime techniques, and identify himself with ever-present criminal images, the differential association and identification processes begin right at home with no intermediate stages.[7] Here we have probably the sole instance where there is no "disconnectedness" and no theoretical gap between the etiology of crime on the personal level and the differential association and identification processes because, strictly speaking, the association process with criminal patterns can hardly be described in this case as "differential": In a family where, say, the father is a burglar, the mother a shoplifter, and the elder sister a prostitute,

[6] This might also afford a methodological tool to measure the "resistance potential" of a norm, not by the group [as Sellin proposed (46)] but by the individual.

[7] As to the significantly high incidence of crime in the families of delinquents, see Glueck (21) and Burt (7).

a young boy must be maladjusted indeed if he aspires to be a college professor or a priest.

Different considerations altogether apply, for our present purposes, to the broken homes, "inadequate" homes, "maladjusted" homes, etc.

The "broken" family caused by divorce, death, or prolonged or permanent incapacitation of one or both of the parents was once considered as a major cause of delinquency, but later research revealed that the broken home as such may not have etiological significance and that the independent variable may well be the faulty socialization process due to tension and family discord; or, as formulated by our hypothesis: the significant etiological factors are the flaws in the norm-sending process due to conflict situations in the primary socialization agency. The findings which support this part of our hypothesis are, *inter alia,* as follows: Ivan Nye concluded in a recent study that the rates of delinquency are significantly higher in unbroken but unhappy and conflict-ridden homes than in broken ones (39).

Burt found that inconsistencies in disciplining the child, and erratic and ambiguous demands, were seven times more linked with delinquency than was reasonable treatment (7).

Shaw and McKay state that continuous family tension and discord is a far more important factor in delinquency than the actual divorce of the parents. They even suggest that actual divorce might lessen the chances of children in a tension-laden family to turn delinquent or maladjusted (46).

All of the three detailed descriptions of family relations of delinquents brought out by Healy and Bronner (24) revealed marked discord, irritation, quarrels, and friction between the parents, which condition displayed itself, *inter alia,* by nonconsequential treatment of the children, ambivalence, and violent alternating attitudes.

Two of the now classic expositions of the psychoanalytic approach to juvenile delinquency by Aichhorn (1) and K. Friedlander (18) base their analyses on case studies which clearly reveal parental discord between the parents themselves and towards the child. A recent study published in Israel (26) reveals that the most significant factor linked with delinquency is lack of value consensus among family members.

The tentative list of variables which might be relevant for our present purposes in testing the link between "conflict situations" in the primary socialization process and delinquency might be as follows:

1. Degree of marital maladjustment measured by scales of conflicting roles in the family.[8]

[8] Many scales have been construed to measure marital conflict which might be appropriate for the present purposes. See Burgess and Cottrell (6).

2. Discord of parents towards main values and norms—*viz.*, attitude towards authority, private property, education, resort to violence, etc.—which might be relevant to forming the children's attitude towards delinquent or nondelinquent behavior.

3. Value and norm discord between parents and children.

4. Degree of consistency of parents in disciplining their children. The scaling of this variable should be based, of course, on current theories of learning as to the possible effect of contradictory or inconsistent responses, reward, and withdrawal (punishment) to the same (or similar) behavior of the child.

The effects of inconsistencies in the norm-sending process, either in contradictory statements of rules or arbitrary application of sanctions, is described by Kurt Lewin as follows:

> Indeed, one of the main techniques for breaking morale through a "strategy of terror" consists in exactly this tactic—to keep the person hazy as to where he stands and just what he may expect. If, in addition, frequent vacillations between severe disciplinary measures and promises of good treatment, together with the spreading of contradictory news, make the "cognitive structure" of the situation utterly unclear, then the individual may cease to know even whether a particular plan would lead toward or away from his goal. Under these conditions, even those individuals who have definite goals and are ready to take risks will be paralysed by severe inner conflicts in regard to what to do (30, p. 111).[9]

A recent theory of crime causation, on the personal level, which is largely based on learning theories related to conditioned anxiety reaction states, *inter alia:*

> If (the parents) occasionally indulge the proscribed behavior—i.e., tolerate it without showing disapproval—they will have the greatest difficulty in conditioning an anxiety reaction, though they may succeed in teaching the child how to evade punishment when he has broken a rule. . . . Social conditioning will be most effective when it is presented in terms of a few well-defined principles and where sanctions are applied consistently and reliably (62, p. 72).

5. Value and norm discord between the parents and other socializing agencies; i.e., school, church, youth club, etc.

E. Conflicts Which Injure the Prestige of the Norm-Sender

Families in communities which undergo a rapid or sudden social change, and especially immigrant families whose cultural tradition in their countries of origin is markedly divergent from the culture of the absorbing community, may undergo socioeconomic injuries which shatter the socioeconomic status

[9] A similar view in the psychoanalytical tradition is expressed by Flugel (16, p. 247).

of the head of the family. These types of conflicts stem basically from "external" (as viewed from the angle of the families) sources; *viz.*, industrialization, urbanization, mass immigration, and social change in the "developing"[10] countries which recently gained their independence. But their main effect in relation to the etiology of crime on *the personal level* is creating conflict situations within the family between the immigrant parents and their native-born (or those who came very young) offspring, with a high probability of injuring the prestige of the norm source and thus hampering and injuring the norm-sending process. In Israel, for instance, this type of conflict has been proved as a factor weakening the cohesion of the family unit, and thus shattering the family control over the young.

The Oriental Jew, however poor he may be, is always the omnipotent paterfamilias; but when he comes to Israel and the different social setup may not allow him to exercise fully his former status, he may be given a job not to his liking. The different living conditions, the strange neighborhood, the different social institutions, mores, and values may shatter his previous convictions and leave him in a state of utter confusion in which he cannot exercise proper control over his family. The youngster may also realize that his father is not the omnipotent patriarch he was supposed to be.

This injury to the prestige of the norm-sender may result in the inability of the head of the family to secure conformity—not only on the internalization level but also on the identification level—and even mere compliance may not be achieved. Here, again, the resultant conflict solution might be the absorption of "the street-culture"—whose norms and values are rarely ambivalent and are, therefore, a "far better" source of norms than an anachronistic, maladapted, and sometimes illiterate father and mother. The "street-culture" (or "the street-corner society") affords, undoubtedly, ample chance to a youngster to associate himself with criminal groups and to identify himself with criminal images (50).

F. Conflict Situations Between Verbally Transmitted Norms and the Actual Behavior of Parents

Paying lip service to legitimate behavior but behaving contrary to these same norms creates conflict situations which may help to explain some of the middle- and upper-class juvenile delinquency or the so-called "good-homes" delinquents. In deeper analysis, these homes might appear not at all that good.

The conflict situations might have destroyed the (legitimate) norm-sending capacity of the family. The parents might preach idealistic achievement,

[10] The diplomatic jargon for underdeveloped countries.

Christian love, and spiritual values, but their actual behavior is solely directed towards material achievement.

The verbal norm might state that one's interests should be sacrificed to help others, but the way the parents behave reveals their actual belief in "everyone to himself";[11] "trust no one"; "don't do any favors—if you do, you get into trouble."

Children see their parents push their way up in the "rat-race" or in the cut-throat competition for upper vertical mobility without being particularly scrupulous about the means to achieve their coveted goal. Children are ruthless, cruel, and grabby because they believe these traits to be indispensable for success and many times even for survival, but what they *hear* from their parents about the proper behavior is diametrically opposite.

The parents preach law observance, but always look in their profession and business for a hole in the law to pass through. They walk many times in the no-man's-land between honesty and dishonesty and, if they do break the law, stress the importance of not being caught.

The chances are great that the children will identify themselves with their parents' *acts* rather than with verbally phrased norms but, even if this does not necessarily follow as a solution of the conflict, the norm-sending process is obviously hampered by the conflict situations created by the parents' preaching of one set of norms and their behaving according to another.

G. Conflict Situations Inherent in the Normative System

If we turn now from the family to the various norms (imbued in a given culture) which are supposed to be internalized by juveniles, we find numerous conflict situations produced by contradictory norms. Sellin (45, p. 67) cites with approval a psychiatrist [Kindwall (28)] who says:

> The demands of civilized life on man are subtly and cruelly exacting; the fine discriminations demanded of him are innumerable and difficult. He must, first of all, love his parents. Both his natural inclinations and public opinion oblige him to do this. Yet he must emancipate himself from his parents, very often without any encouragement from them; on the contrary, they are rather apt to cling to him emotionally. . . . Furthermore, the child, as he grows up, must inhibit his natural tendencies to acquire the things he wants by direct action; yet he must maintain his capacity and zest for competitive struggle for the goods of this world, in which struggle he must draw a line of hairlike fineness between what is moral and what is immoral or "wrong," and although he must acquire property and wealth, if possible, he must also be altruistic, generous,

[11] See A. Cohen's comment on middle-class norms and the more fraternal lower-class ones (10).

> noble. He must be constantly exposed to sex stimulation through visual, aural and olfactory channels and he must take a manly interest in the other sex in order to be acceptable socially; yet he must remain continent, or find his sexual outlets under conflicting rules, traditions and emotions. . . . He must have strong drives, be aggressive and alert, yet conceal these drives as much as possible. He must have a deep respect for the truth, yet learn to suppress, deny or distort it in innumerable occasions. On such foundations does our civilization rest. If a man cannot make these fine distinctions he is called a "rigid personality" and it seems to be true that such rigid personalities are more liable to mental or emotional derangement.

Our hypothesis, in the present context, is that the child's inability to integrate in his personality grossly contradictory norms is caused by the same understandable confusion of the tribesman who is told by his Hottentot chief: "If I flog you and take your wife this is right and just, but if you flog me and take my wife, then it is very wrong and gross injustice." Inability may indeed cause the child's personality to be "rigid," with a high probability of not only emotional derangement but, *inter alia,* delinquent solutions.

Norm-sending in a culture, the normative system of which is riddled by contradictions, is bound to be injured, and the hypothesis is that the more conflict situations in the normative system of a culture, the less are the chances of the juveniles' internalizing an effective normative barrier against delinquency.

This is not only because socialization means adjustment to harsh and cruel standards of competition, and overcoming status and class barriers, but also (if not mainly) because of the conflict situations created by the Scylla of contradictory norms and the Charybdis of sticking vehemently to only one set of these norms and becoming thus a "rigid personality."

At this stage of our analysis, we still deal with juveniles, and it might be worthwhile to examine our hypothesis in conjunction with one of the current theories on adolescent behavior.

For Erikson, the end product of a socialized and "adjusted" adult is ego-identity—i.e., "a persistent sameness within oneself and a persistent sharing of some kind of essential character with others" (13)—whereas the period of adolescence is characterized by "ego-diffusion," which manifests itself, *inter alia,* by a diffused sense of time, preoccupation with looks, being vain and touchy, inability to develop a deep intimacy with other human beings, periods of "work paralysis," continuous experimentation in various roles (by means of actual behavior and daydreaming), and uncompromising and belligerent loyalty to personal ideas. If the norm-sending process prior to or within this

critical period of "ego-diffusion" has been faulty because of many and intense conflict situations in the family, in other socializing agencies, and in the normative system of the relevant culture, there will not be any *strong* and *clear* normative barriers against a delinquent solution, because the "street culture" is rarely ambiguous and ambivalent and the conflict situations within the normative system of the gang are rarely intense. Normative definitions of the street culture are quick, sharp, and as glittering as the coffee and the espresso machines in the street-corner coffee bars. Everybody there knows exactly who is a "beat" and who is a "square," how to gain "rep," and what the consequences are of losing "heart."

An adolescent in a state of "ego-diffusion" may be ripe for the various processes leading to gang membership because, in the absence of normative barriers (the formation of which were hampered by conflict situations in the norm-sending process), "gang membership . . . often helps the vacillating youth to act. It reinforces his sense of identity. His assignments in the gang overcome the feeling of work paralysis and as a gang member he can safely assert his masculinity and his defiance of authority" (42, p. 87).

An empirical proof for this hypothesis may be found in the data, brought by Lewin, according to which the emotional tension of adolescent youths was greatly diminished when they finally became members of a criminal gang (31) and there found, presumably, their coveted "ego-identity."

H. Conflict Situations in Surveillance and in Application of Sanctions (Juveniles)

As we have seen, the norm-sending process is comprised of three components: the statement of the rule, surveillance of compliance to the rule, and application of sanctions for noncompliance.

Most of our foregoing analysis was devoted to conflict situations in the statements of rules by the socializing agencies, and now we propose to examine some conflict situations in the remaining two components of the norm-sending process and their probable effect on injuring the normative barriers to delinquent solutions.

There is a growing awareness in many recent publications of the differential attitude toward acts, especially if committed by juveniles, which are sometimes regarded as delinquent and treated accordingly and sometimes not, because the child belongs to a different class or group and *not because his act was different from the one branded as delinquent.*

This is based not only on impressionistic observations of professional workers in the field that a working-class mother is herself going to hand over

a son to the police because he was stealing money from her, whereas the middle-class or upper-class mother is more likely to take her son who steals from her and from other family members to consult a psychiatrist; or on observations of such a closely-knit social unit as the Israeli *kibbutzim,* who very rarely report to the police thefts or other delinquent acts and "arrange matters" within the family; but on such studies as Porterfield's, which reveal that 100 per cent of his research population (437 college men and women) have admittedly committed in their precollege years acts for which other children (mostly working-class) of the same town were brought before the courts and branded as delinquents (41)!

This, of course, is directly linked with the problem that crime and delinquency known to the police are only a part, and not necessarily a statistically representative one, of the overall delinquency rate in a given community. The crucial question, for our present purposes, is what effect on the norm-sending process have the conflict situations created by the lower-class boy's knowing that other boys are not punished for the same things he is doing and the middle- or upper-class boy's realizing that he gets away with things for which other boys are arrested and brought before the juvenile-court judge.

Before proposing a more definite formulation of our hypothesis concerning the conflict situations in surveilling and the application of sanction aspects of the norm-sending process, we shall examine a recent theoretical exposition of the delinquent's value system which may be relevant to the present issue. Matza and Sykes hypothesize that the value system of delinquents is not really different from the value system of many members of the higher classes. They borrow Veblen's description of "the leisure class" (65) to denote much of the behavior and motivation of delinquents. The latter are the plebeian "leisure class" and have very much in common with the patrician "leisure class" (32). Both hate work, value courage and daring, covet clothes and other goods as status symbols, and regard aggression as manly behavior. We may add that indeed a gentleman is, *by definition,* a man who abhors manual occupation (and is able to afford it), and who seeks dangerous sports like mountain climbing, fast driving, and a Victoria Cross in wartime.

Duels and aggression have come back now in the notorious German fraternities and, of course, fashionable clothes and the latest model of car and lighter. The member of the plebeian "leisure class" is also after flashy suits, cars, and the latest model of transistor radio, but he, unlike his patrician colleague, has to work for it and, if he does not feel like working, might be motivated, *inter alia,* towards a delinquent solution.

Veblen himself noticed the similarity between the upper and the lower

leisure classes. He says: "The ideal pecuniary man is like the ideal delinquent in his unscrupulous conversion of goods and services to his own ends and in a callous disregard for the feelings and wishes of others and of the remoter effects of his actions" (65, p. 237).

The conclusion for our purposes might be that if the values and, indeed, behavior of both the leisure class and delinquents are not in many respects dissimilar, and the main discrepancy lies in the differential treatment of this behavior by the administrators of criminal justice, a conflict situation is created which injures the strength of the normative barriers. The question is, of course: Whose normative barriers are more injured by this type of conflict situation: the lower-class youth's or the upper-class youth's?

As an impressionistic observation, let us examine the case of some Cambridge undergraduates who indulge quite frequently in drunken brawls and are very rarely apprehended by the police, whereas the chances of the same behavior by working-class youths of being overlooked by the police is quite meagre. Is the conflict situation as perceived by the working-class youth that he is being discriminated against, or the realization of the upper-class youth that he can get away with it, more injurious to the strength of the norm?

Our hypothesis is that the conflict situation as perceived by the middle- and upper-class boy is, in the surveillance and sanction parts of the norm-sending process, far more injurious to his normative barrier (if any) against a delinquent solution, because he realizes from personal experience that he can get away with a professedly forbidden act and knows or is told that for the same act (i.e., stealing money and cars) other boys are being brought to the juvenile court (as in the Porterfield study). On the other hand, the lower-class boy is generally far too removed both geographically and socially from the upper-middle-class and upper-class youths to realize fully that the latter get away with things for the commission of which he is branded as a delinquent.

Our hypothesis is, therefore, that this type of conflict situation in the surveillance and sanction stages of the norm-sending process are more liable to affect the normative barrier of youths belonging to the upper socioeconomic levels and thus may be more relevant to the causal explanation of middle- and upper-class juvenile delinquency and deviation.

I. The Delinquent Solution of Conflict Situations

As we have already mentioned, one type of solution of the conflict situations in the norm-sending process is to turn to the street-corner gangs or to openly delinquent gangs for clearer norms and clearly defined nonambiguous values and patterns of behavior. Newcomb points out this possibility of conflict

solution by citing with approval that "adolescents frequently find relief from puzzling inconsistent and confusing situations by . . . *anchoring themselves to an age-mate world*" (38, p. 326).

This solution is hypothetically feasible for the various conflict situations in the socializing process; *viz.*, conflicting roles in the family, discord of parents towards main values and norms, value and norm discord between parents and children, and inconsistency of discipline.

The "street-culture" provides a sense of security inherent in a simple and consistent normative system, where values are sharply defined in black and white with almost no greys or other ambiguous linings. This age-mate world provides not only a clear outlook on things instead of the confused or almost nonexistent value system at home, but also the intense adolescent need for the emotional security of belonging to a peer group.

This is even more true if the prestige of the most important norm source has been severely injured. This has already been illustrated in conjunction with the second-generation immigrants. The illiterate, economically insecure, bizarrely attired, Oriental Jew is no match for the mass-produced imitations of Elvis Presley or other movie demigods who seem to thrive not only on street corners of Western cities but also in Russia and other Eastern countries (19). This type of solution (in the absence of a restraining normative barrier) becomes more probable with adolescents, whose roles are bound to be ambiguous because of the biological changes which place them in the no-man's-land between childhood and adulthood (31, p. 272).

By closely associating with (anchoring on) his age-mates, an adolescent joins a group composed of individuals who have similar adjustment problems and gains thereby further emotional security. It should be pointed out, however, that the various theoretical expositions which stress the "masculine protest" of the adolescent, his false bravado, and his aggression as partial explanations of juvenile delinquency on the personal level (17) are inadequate insofar as they do not take into consideration the normative barriers to delinquent solutions. Every child passes through the phase of adolescence, and applying to this any etiological significance to crime causation is as logical as to attribute the delinquency of juveniles to their teething, or having measles or mumps. *Only when a restraining normative barrier against delinquent behavior has not been formed by the family or other socializing agencies is a child ripe for absorbing the "street-culture" and the road is paved for the differential association and other processes which lead to membership in a criminal subculture.*

Another part of our hypothesis which stems from the foregoing one is that

the conflict situations in the norm-sending process serve not only as a negative force hampering and avoiding the formation of normative barriers to delinquent solutions, but also a *positive* pressure towards delinquent behavior. Many students of juvenile delinquency point out the negativistic aggression, the seemingly purposeless vandalism of much delinquent behavior. Some of the current explanations of this extreme form of aggression, this "rebellion without cause," center around the insecurity of these youths who only halfheartedly infringe the middle-class norms, and, in order to overcome the guilt feelings thus created, their reaction-formation expresses itself in exaggerated bravado and aggression against the subconsciously cherished middle-class norms. (10). This behavior is exemplified by the blow inflicted on the severed head of Louis XVI by the executioner, who tried thus to strengthen himself and overcome the terror which gripped him for killing the sacred monarch of France.

Our hypothesis in this respect is quite different. We hold that the overt aggression is not so much a reaction formation as a *direct and positive* rebellious act—a battle cry against a double-thinking, double-talking, and clearly contradictory and confused value system of the socializing agencies, families, schools, church, and other social institutions. If some current theories on the process of adolescence are correct, maturity is the ability to reconcile the contradictory postulates of culture, to develop a selective attitude towards various groups—a selective memory depending on whether the injuries have been inflicted by your group or suffered by it. This Hottentot morality is aptly phrased by Merton as: "*I* am daring; *you* are reckless; *he* is delinquent."[12]

Adolescence is characterized, *inter alia,* by a yen for absolute values and a desire for sharply defined roles. Youth, as described by countless works of literature, is not only a seething cauldron of idealism and weltschmerz, but is also passionately in favor of consequential statements of facts and rules which are otherwise known (in unscientific jargon) as plain honesty.

Gobseque, that stingy old scoundrel created by Balzac, sits before the fireplace with his teenage friend and promises him a loan without guarantees because, up to 20 years of age, a person's best security is his youth and "because you, my young friend, are idealistic, you visualize great ideas, basic truths and beautiful Utopias while staring at the dancing flames. At my age, however, we see in the fireplace plain burning coal." A youth whose socialization is riddled with conflict situations is liable to reject the offered adjustment to contradictory, hypocritical, and confused norms. If this means adulthood, he prefers the more direct behavior and clearly defined normative system of

[12] Cited by Matza and Sykes (32).

the delinquent subculture and then, because of his inability to internalize contradictory norms and adopt inconsistent and selective attitudes, he might be branded as "infantile," "rigid," permanent "adolescent," "troublemaker," thereby being pushed further to the delinquent gang where the "rotten bunch of hypocrites" who manage the "legitimate" rackets are rarely described in ambivalent or ambiguous terms. An impressionistic support for our present hypothesis is provided by a recent analysis of the American value system (5) according to which most norms and values are make-believe images far removed from reality, and all commerce, advertisement, politics, social events, and status symbols are "pseudo-events." Even God is pseudo: "The Celebrity-Author of the World's Best-Seller. *Only the world of crime is left as a last refuge of the authentic uncorrupted spontaneous event*" (5, p. 84).

This is exactly what we had in mind when formulating our hypothesis about the delinquent solution's being the disgusted escape of the youth from a contradictory, confused, and meaningless adult world to a direct and meaningful delinquent age-mate group.

To conclude this part of our analysis, there is nothing better than to cite with approval the sincere confession of a celebrated psychiatrist and criminologist:

> I many times had the feeling, in talking with the boys, that I was in a false position. I felt sometimes like an envoy of a *dishonestly* predatory enterprise sent to decoy and to trap into a kind of slavery those free spirits who had thus far managed to elude the snare. . . . They saw human society in a truer light and were more truly engaged with life than were most of their elders who were professedly engaged in dealing with "delinquency" but in fact were concerned mainly with their own security and righteousness (48, pp. 827-828).

It should be pointed out that the various theories centering on the discrepancy between middle-class norms and the performance level of lower-class boys (10)—the gap between justified expectations and actual achievement due to barriers to upper vertical mobility based not on merits but on class, race, creed, etc. (9, 34)—are special cases of the wider hypothesis presented in this paper. Conflict situations in the norm-sending process are invariably created by such sacred postulates as "all men are created equal" and the Orwellian realistic modification that some are more equal than others; by a lower-class boy who has been led to believe that by education, ability, and hard work he might improve his social and economic status—only to realize that "the room at the top" is not only scarce and narrow but the way to get there is through everything else except merit. Jews, Negroes, Dagoes, Wops,

and coolies know better than to take at face value the lip service paid mainly by politicians and religious functionaries to such phrases as "equality of opportunity," "fraternity," "freedom," and "peace." More often freedom is interpreted as freedom to do what you are told to do, peace is used as a weapon in the cold war, and equality of opportunity is indeed yours provided you are white, Protestant, and a graduate of Harvard or a member of the British Establishment. This obviously may be included in our causal scheme as conflict situations in the norm-sending process which are inherent in the culture of a given society.

It may also be pointed out that theories centering on the status and norm differences of lower-class and middle-class boys might be inadequate in relation to societies, the class structure of which is not very rigid. If we consider the case of Israel, classes (in the sense attributed to this concept in England and the U.S.) have not yet been formed. There are, of course, many criteria of social stratification, but these are not very distinct and their effect is not decisive enough to justify a whole theory of criminal subculture formation [e.g., Cohen's theory on the delinquent gangs (10)] on the discrepancies between middle-class norms and the actual achievement of lower-class boys. It might be tentatively suggested that a mass-immigration country like Israel, the Jewish population of which has trebled in the last 14 years, could be fruitfully studied for the purposes of determining the pressures towards juvenile-gang formation as an arena of "culture conflict" between the conduct norms of the various ethnic groups (50) and the new immigrants holding (*mutatis mutandis*) the underprivileged position which the lower classes hold in Cohen's causal scheme. The final result, at this stage, of the various flaws in the norm-sending process due to conflict situations in this process is not only a higher probability of a delinquent solution, but also an inchoate and faulty norm-receiving by the individual child; if the receiving process stopped mere compliance without moving further towards internalization, the child grows up—in the extreme cases of faulty norm-receiving—without a "conscience" or a "superego," "a psychopath," "morally deficient," or "sanction-orientated." All this jargon stands for an orientation which has no *normative* barrier against committing forbidden acts, and the main worry of these "sanction-orientated" children is not to get caught and to minimize the severity of sanctions involved in nonconformity to norms (22). The chances, therefore, of a delinquent solution by "sanction-orientated" children become higher if they learn that their chances of being caught in a great many offences is indeed quite meagre, especially with offences against property where approximately three out of four offenders get away with it (24). The final

result at the norm-receiving end might thus enhance a delinquent solution because the shallow level of mere compliance to norms is based entirely on the fear of sanctions, the effectiveness of which in many offences is quite low due to a small rate of detection. This was aptly phrased by a recent article on the psychological bases of delinquency which states, *inter alia:*

> As long as the only force which can curb his impulsiveness is threat of external punishment and as long as he remains convinced that he will not be caught so as to be punished, the delinquent has no means for inhibiting his impulse toward socially unacceptable behavior. Hence the impulse leads unchecked into criminal behavior (33).

J. Conflict Situations in the Norm-Sending Process and Criminal Solutions by Adult Offenders

It has already been pointed out that the crucial difference between the norm-sending process in relation to adults and juveniles is that the former are directly exposed to the norms, whereas the latter absorb (if at all) the norms through the various socializing agencies.

Another important difference stems from the relative crystalization of the adult personality and the higher probability that with adults (whose socialization process has presumably terminated) the norm-receiving process has reached a state of finality. We may presume, therefore, that the absorption of a norm or a group of norms with given adults has stopped at the mere compliance stage where no normative barrier has been formed, and the only force which bars (if at all) from committing an offence is fear of punishment —or perhaps the norm-receiving process has reached far deeper to the other side of the continuum and has been internalized to form a normative barrier against any delinquent solution, and the fear of sanction has a small or a secondary significance. The sanction-orientated person and the morally orientated one are, of course, two theoretical extremes of a continuum, and the actual degree of norm absorption may have an indefinite range of possibilities. However, in the present context, we shall be more concerned with the morally orientated person and the effect of conflict situations on norms which have *already been internalized.*

Fear of punishment as a deterrent and a crime-preventing factor is being studied extensively by many penologists. The conviction that fear of punishment is bound to prevent crime was equally shared by King Hammurabi, the Indian Manu, Bentham, Salmond, and many others. Nobody denies that punishment does have a deterrent effect; what we do not know is its limits, nature, scope, and efficacy. People generally tend to exaggerate in their

reliance on this deterrent effect, especially when a country is rightly or wrongly deemed to be "swept" by a so-called "crime wave."

Penologists display some findings about the inefficiency of deterrence on some kinds of abnormal, habitual, and professional offenders (35, 52, 66, 67).

We have also ample proof concerning the inefficiency of the presumable deterrent effect of capital punishment on potential murderers (44, 46), but as a whole we really do not know much about the nature of deterrence, because we do not know much about the mechanism of human emotions. Fear is one such emotion. Consequently the exact operation of deterrence cannot as yet be determined.

A recent interesting hypothesis which is based on avoidance learning by conditioned anxiety is offered by Trasler and may help to delineate the scope and intensity of the deterrent efficacy of punishment. Trasler states, *inter alia,* that:

> in popular discussion and in the courts it is usually assumed that where people are deterred from criminal behavior by fear, the intensity of this fear is governed by their anticipation of the penalty with which the crime would be visited. This view implies the existence of a precise relationship between the severity of legal sanctions and their power to deter a particular individual—a state of affairs which many who have to do with criminals would think unlikely. The analysis which is proposed here implies instead that the intensity of the anxiety reaction is a function of the severity of fear stimulated *at the time of conditioning.*
>
> This will normally be during childhood, when the individual is more vulnerable to fears than he will be later in his life. It should also be noticed that punishment, in the sense of the actual application of pain, is not an essential element in passive avoidance training. It is simply one method of arousing anxiety which can be associated with conditioned stimuli. It follows that if anxiety can be stimulated by some other means, or if some powerful latent fear can be revived so that its arousal immediately follows the conditioned stimulus on several successive occasions, passive avoidance conditioning will be established (62, p. 74).

Another problem which is only tangential to our present analysis is apparent in the cases which are quite many in backward countries where communication is poor and in mass-immigration countries like Israel. These are cases in relation to which the norm-sending process is completely inefficient because the persons were never exposed to these processes and therefore were quite ignorant of the existence of the norms. Readers of the humane diary of Toufiq El-Haquim, a magistrate in a rural area in Egypt, realize how futile and tedious is the administration of justice in villages where laws passed in Cairo never reached the Felahins' ears and eyes. Similar problems of external "culture

conflict" are portrayed by the Yemenite Jew who cannot understand the Israeli laws which forbid bigamy, the Bedouin who dismisses the rumors that the "city laws" do not approve of avenging the blood of his murdered brother, and the mountain-Jew from Morocco who does not know that Israeli laws prescribe life imprisonment for killing a daughter who becomes pregnant out of wedlock (45, 50). These are extreme cases, but many laws are passed which do not reach us. The norm-sending process here did not even begin to operate because the individuals were not exposed to the myriads of laws, bylaws, rules, and other *mala prohibita* which are enacted every day by the various authorities. Here the legislator wisely availed himself of the famous maxim that "ignoratia juris neminem excusat"; otherwise the wheels of government and justice would have been hopelessly clogged.

K. Conflicts in the Statement of the Rule

The most widely discussed and studied conflict situations are those where the stated rule is contrary to or not in line with a previously internalized norm or norms. These clashes of rules have been studied in relation to crime and social change, and especially to industrialization; to urbanization (8); to the conquering or the gaining of independence of immigration countries; and as a by-product of group conflicts, such as ethnic minorities, political rebels, and labor unions (53). This is, although a particular instance, an integral part of our causal scheme, but as it has already been extensively dealt with elsewhere,[13] we shall continue our analysis and examine some conflict situation in the statement of the rules themselves.

Stouffer and Toby have demonstrated that, when there is a conflict between a universalistic and a particularistic norm, some people are predisposed to choose one way or the other (54); but legal norms are by definition universalistic and may clash with particularistic norms which prescribe behavior, such as covering up for friends and relatives and helping them to escape the arms of the law, although serious offences may have been committed. This behavior is considered even commendable; there is hardly anyone who is hated more wholeheartedly than the "rat" or the "heel," not only in a criminal subculture but in every human group from the school to the office team; the "teacher's boys" and informers are scorned and ostracized. It should be pointed out, on the other hand, that in many criminal codes it is an offence not to notify the authorities of any infringement of the law. Particularistic norms may, indeed, specify in many instances the infringement of the legal universalistic one. An extreme case is the father who steals food for his family. It is agreed, of course,

[13] See the references in Shoham (51).

that need is a subjective state of mind, as illustrated by the executive who defines a possession of only one Cadillac as being in a needy state (because other executives in the company own more) and embezzles some funds to buy another automobile. The crucial point is that particularistic norms which are in conflict with the universalistic legal norms might injure the norm-sending process and lower the probability of forming a barrier against a criminal solution. Another type of conflict situation in the process of stating the norm is one created by the multitude of laws, rules, and regulations which govern our everyday life.

The trend towards state control of many fields from the economy to education—not only in the totalitarian and welfare states but also in the capitalistic ones—result in a continuous flow of *mala prohibita* which engulfs the individual and tightens his "free movement" area; it also subjects him quite often to inconsistent pressures, and the sheer quantity of these rules and regulations might create multiple avoidance-avoidance and approach-avoidance conflicts which are liable to leave him in a Kafkaesque situation where the web of bureaucracy leaves the individual in utter confusion as to what the rules are, who stated them, and when and where they are to be observed. The danger of too many norms, which are supposed to regulate one life situation, is dealt with, *inter alia,* by Thibaut and Kelley who say:

> Under these conditions (too many norms) said to characterize bureaucracies, the rules governing behavior can be so complex that people are unable to master them fully. The result is an unwillingness to act or make behavioral decisions. The individual may also become so engrossed with the internal structure and interpretations of the norms that he loses touch with the outside world (60, p. 239).

L. Conflict Situations in Surveillance and in Application of Sanctions (Adults)

Daniel Drew, a shady business associate of the "robber barons," declared once: "Law is like a cobweb; it's made for flies and the smaller kinds of insects, so to speak, but lets the big bumblebees break through" (56). This illustrates the prevailing view in many societies, and especially in the underprivileged classes, that the sacred maxim of equality before the law which is solemnly engraved in many constitutions is largely a myth. Here the differential surveillance of compliance to norms and the application of sanctions have a more directly injurious and shattering effect on the normative barrier than with juvenile delinquents, because with adults this differential treatment of lawbreakers is mainly encountered in business, politics, and other economic

and professional activities. One of the most widely referred to types of offence where differential law enforcement is presumably most widely practised is "white-collar crime," or the criminality of the upper socioeconomic classes in the course of occupation in business, politics, and the professions. Sutherland, who actually initiated this branch of criminology (57), demonstrated the colossal volume of offences committed by large corporations, and especially the defrauding of shareholders and the submitting of false financial reports. The food industry sells products which are quite often against legal specifications and sometimes actually injurious to health. Bribery is practised by many as an inseparable part of routine business transactions. Politics are riddled with graft; millions are embezzled by employees, and the advertisement collossi help extract money by false pretenses by attributing to their clients' goods qualities which they do not possess.

The point which is relevant in the present context is that the white-collar criminals are treated differently from the more conventional criminals by the law-enforcement agencies. If this hypothesis is correct, we have a clear case of conflict in surveillance and in application of sanction which results (or has already resulted) in a severe injury to the normative barrier against committing white-collar offences. Our hypothesis is, therefore, that if the rich descendants of the "robber barons" are among the social elite of the U.S. and if a chairman of railway companies who embezzled a quarter of a million dollars is elected as president of the Chamber of Commerce; if white-collar criminals have connections in the law-enforcement agencies who see to it (for good consideration) that their friends are not prosecuted and if the mere fact that social-class and social-background similarities existing between the white-collar criminals and the higher echelons of government officials and law-enforcement agencies cause a "softer" treatment of the formers' offences and even nonprosecution at all—then the norms which proscribe these "white-collar offences" weaken considerably.

A direct outcome of this differential treatment of white-collar offences is that the public gets accustomed to the idea that businesses *must* commit offences in the course of their occupation in order to be able to survive cut-throat competition. Businessmen must, therefore, be S.O.B., as the president of the U.S. candidly described them, but this should be followed by the old Jewish saying that money cleanses, purifies, and makes the S.O.B. a respectable saint.

Many criminologists point out the tremendous sums of money involved in white-collar crime which make ordinary criminals look like peanut pilferers, but our concern is centered on the effect of the type of crime, and especially of

the relative immunity of its perpetrators from detection and prosecution, on the normative system and normative barriers (which have been presumably internalized) against criminal solutions. Ordinary crimes, burglary, theft, and violence are committed by persons who are in many ways outside the law-abiding society. These persons are clearly stigmatized as criminals and sooner or later will be forced (*inter alia,* by social ostracism) to cross over the barricade to the criminal subculture. However, white-collar criminals belong as a rule to the respectable circles in a community and to its social elite, but if this elite not only commits grave offences against the state, the economy, and the public at large, but also get away with it, the public (lower classes and middle classes alike) tends to retrieve the legitimacy which might have been imputed to the normative system. The hypothesis is, therefore, that white-collar offences, more than any other type of offence, enhance cynical attitudes towards the law and law-enforcement agencies, and promote distrust, suspicion, and bitterness towards agencies of government and authority as a whole.

The differential treatment of white-collar criminals may also be partly responsible for the fact that modern penology is largely a Sisyphean task, because prisoners and other offenders may be reluctant to take seriously the efforts of the prison staff and probation officers to rehabilitate them if the social elite of "honest, respectable citizens" is riddled with fraud and graft. This helps to perpetuate the picture of "big penology" drawn by "Frisco," the amiable old rascal who spent half his life in prison:

> Big penology is the gag—the big industry, heavy money aspect of crime and imprisonment. It starts with the hustling bail-bond broker who's shilling for a shyster lawyer on the side; it covers legions of bovine fat men with cigars, frustrated and threadbare lawyers, thin-lipped, untrained and fanatical emissaries of right—all of whom have in common a connection in the upper levels of a city or state administration (20).

A similar derogatory effect on the normative barrier is caused by the "fix" which is, presumably, closely associated with the symbiosis between organized crime and law-enforcement agencies, especially when the latter are staffed with elected chiefs of police, D.A.'s, and judges. Here a relative immunity from prosecution is gained by a whole class of persons who have the appropriate connections with the political machines and are able to get their cases fixed (27, p. 97; 55). A similar injurious effect on the normative barriers is caused by legislation which is passed by the pressure of a powerful minority against the interests of the population at large or a considerable part thereof; e.g., big business and industry lobbying against the interests of the consumers,

employers against the interests of employees, landlords against the interests of tenants, etc.

Another phenomenon which tends to create conflict situations in the surveillance-and-application-of-sanction aspects of the norm-sending process, and which consequently weakens the normative fences against crime, is the relatively low rate of detection of many types of offences and especially of offences against property. The data for England show a constantly decreasing rate of detection of offences and, according to one report, this rate for serious offences moved some years ago around 25 per cent (23). In 2,000 cities in the U.S., for the year 1958 (63, p. 75), the rates (per cent) of offences cleared by arrest were as follows: (*a*) murder, 94; (*b*) rape, 73; (*c*) aggravated assault, 79; (*d*) robberies, 43; (*e*) burglaries, 30; (*f*) larcenies, 20. The same rates in Israel for the year 1961 (25, p. 99) were as follows: (*a*) murder, 80; (*b*) rape, 95; (*c*) aggravated assault, 93; (*d*) robberies, 59; (*e*) burglaries, 30—approximately; (*f*) larcenies, 25—approximately.

This admittedly low rate of detection of some types of offence, and particularly of offences against property—which are the most frequent type of offence committed in most societies—may lead, according to our present hypothesis, to one of the following injuries to the normative barrier against crime:

1. If the person concerned received the norm to only a shallow degree—i.e., he is only sanction-oriented towards infringing certain norms—he might realize that his chances to get away are really good (in some cases four or five to one). Some legitimate professions have risks far greater than these.

2. If the norms have been internalized and a person becomes morally orientated towards a group of norms, for example, which protect private property and property rights, he feels ridiculed; he lost many chances in the past to make easy money and was never tempted to misappropriate money or goods, but then these thieves become rich and pass by with their flashy cars and a look of pitiful amusement and scorn. . . . In short, honest people feel cheated, and doubts begin to creep into their former conviction that honesty is not only proper but wise.

3. Current learning theories tend to agree that conformity to norms is largely achieved through passive-avoidance learning, but passive-avoidance conditioning does not take place if reaction to the proscribed behavior (punishment) is sporadic, unsystematic, and inflicted on a low ratio of proscribed acts (offences) (37, p. 133).

The last point in the present context is that faulty, irregular, and discriminating surveillance and application of sanction might also have a self-aug-

menting positive-feedback effect on the rates of these particular offences, because an increasing rate of certain crimes (or for that matter any other behavior contrary to social norms) leads to the realization (which is used also as a rationalization after the act) that "everybody's doing it." This, of course, injures the normative barrier against committing this offence which is seemingly very common. The positive-feedback effect is brought about by the new recruits to the criminal subculture who are enlisted from "everybody who is doing it," thus raising the criminal population in a given area and raising the potency of the ecological predisposing factor which is, of course, linked with the other criminal predisposing factors. Our causal scheme becomes thus a partly closed circuit.

M. Criminal Conflict Solutions

Our different analyses of juveniles and adults were based on the assumption that the socialization process of the latter had reached a fair degree of finality and that the absorption of norms either stopped at the shallow level of mere compliance or reached the deeper levels of internalization.

We also mentioned that those who are sanction-orientated towards given norms (because their absorption stopped at the level of compliance) pose mainly a penological problem: I.e., how are these people affected (if at all) by fear of punishment? Our hypothesis in the present context is centered, therefore, on the effects of the conflict situations in the norm-sending process (especially in the surveillance and sanction-application phases) on the norms which have been internalized to form an initial barrier against criminal solutions. The hypothesis is that the higher the intensity and extent of conflict situations in the norm-sending process (as analyzed in the previous section), the greater the shift on the continuum from moral orientation to sanction orientation. The final product is that the normative barrier against a given crime is completely shattered and the crime is then in being caught, not in committing the offence.

Sutherland's seemingly tautalogical statement (58, p. 78) that "a person becomes delinquent because of an excess of definitions favorable to violation of law over definitions unfavorable to violation of law" may be imbued with a new meaning; i.e., the shift from moral to sanction orientation caused by conflict situations in the norm-sending processes weakens the normative barrier (definitions unfavorable to violation of law) against a criminal solution and strengthens the definitions favorable to violation of law (because crime *does* pay, everybody is doing it, etc.). Matza and Sykes formulated some years ago what they considered to be an explanation of many types of

delinquency on the personal level. They stated: "It is our argument that much delinquency is based on what is essentially an unrecognized extension of defences to crimes in the form of justifications for deviance that are seen as valid by the delinquent but not by the legal system or society at large" (59). Then they analyze many rationalization techniques used by delinquents to justify their deviant behavior and to pacify their supposedly suffering conscience and guilt feeling caused by a deep-seated reverence towards the norms they infringed (59, p. 665).

It seems to the present author, however, that Sykes and Matza did leave an important causal link unexplained. Rationalizations are mostly *after-the-fact* justifications and, even if they precede the act, the rationalization techniques (which more adequately describe the theory than do neutralization techniques) are lip service paid to an already shattered normative barrier. If the latter is intact and the norm proscribing a certain act is deeply internalized, there is not only no need for rationalizing a permissive attitude towards the forbidden acts, but it is not even considered as relevant or possible. Jewish martyrs, Christian heretics, freedom fighters on the way to the gallows, the Hindu dying of hunger but not slaughtering a sacred cow, and people living in extreme poverty and never considering the infringement of the property rights of others do not resort to rationalization techniques. These are for doubters, for those who roam subjectively the no-man's-land between the legal and the illegal, the moral and the immoral. Before analyzing the techniques of rationalizing the commission of an offence so as to make it relatively permissible or justified, we must understand the process leading to the injury and eventual disintegration of the internalized norms proscribing the specific criminal acts. This was the purpose of our present analysis.

References

1. Aichorn, A. Wayward Youth. New York: Viking Press, 1925.
2. Anonymous. Old Mike states the case. *Raiford Rec.,* 1950, **12**, 10-13.
3. Becker, H. S. Normative reaction to normlessness. *Amer. Sociol. Rev.,* 1960, **25**, 803-810.
4. Bonger, A. W. Criminality and Economic Conditions. Boston: Little, Brown, 1916.
5. Boorstin, D. J. The Image or What Happened To the American Dream. New York: Atheneum, 1962.
6. Burgess, E., & Cottrell, L. S. Predicting Success or Failure in Marriage. Englewood Cliffs, N.J.: Prentice-Hall, 1939.
7. Burt, C. The Young Delinquent. New York: Appleton, 1925.
8. Christiansen, K. O. Industrialization and urbanization in relation to crime and juvenile delinquency. *Internat. Rev. Crim. Policy,* 1960, **16**, 3-8.
9. Cloward, R. A., & Ohlin, L. E. Delinquency and Opportunity: A Theory of Delinquent Gangs. Glencoe, Ill.: Free Press, 1960.

10. COHEN, A. K. Delinquent Boys: The Culture of the Gang. Glencoe, Ill.: Free Press, 1955.
11. DEGRAZIA, S. The Political Community: A Study of Anomie. Chicago: Univ. Chicago Press, 1948.
12. DURKHEIM, E. Suicide. Glencoe, Ill.: Free Press, 1951.
13. ERIKSON, E. The Problem of Identity. *J. Amer. Psychiat. Assoc.*, 1956, **4**, 56-121.
14. EYNON, T. G., & RECKLESS, W. C. Companionship at delinquency onset. *Brit. J. Criminol.*, 1961, **2**, 162-170.
15. FERRI, E. Criminal Sociology. Boston: Little, Brown, 1900.
16. FLUGEL, J. C. Man, Morals and Society. Harmondsworth, Middlesex: Penguin, 1955.
17. FRANKENSTEIN, C. Adolescence and delinquency. Publication in honor of Prof. Dushkin, Hebrew University, Jerusalem, 1962.
18. FRIEDLANDER, K. The Psychoanalytical Approach to Juvenile Delinquency. London: Kegan Paul, 1947.
19. FYVEL, T. R. The Insecure Offenders. London: Chatto & Windus, 1961.
20. GLASER, D. Criminality theories and behavioral images. *Amer. J. Sociol.*, 1956, **61**, 435-444.
21. GLUECK, S., & GLUECK, E. Unraveling Juvenile Delinquency. New York: Commonwealth Fund, 1950.
22. GROSS, H., MCEACHERN, A. W., & MASON, W. S. Role conflict and its resolution. In Maccoby, E. E., Newcomb, T. M., & Hartley, E. L. (Ed.), *Readings in Social Psychology* (3rd ed.) New York: Henry Holt, 1958. Pp. 447-460.
23. GRUNBUT, M. Statistics in Criminology. *J. Royal Stat. Soc.*, 1951, **114** (Part II), 139-157.
24. HEALY, W., & BRONNER, A. F. New Lights on Delinquency and Its Treatment. New Haven: Yale Univ. Press, 1936.
25. ISRAEL POLICE. Annual Report of the Israel Police. Tel Aviv: Ministry of Police, 1961.
26. JAFFE, L. D. Delinquency Proneness and Family Anomie (in Hebrew). Jerusalem: Megamot, 1962.
27. KEFAUVER, E. Crime in America. New York: Doubleday, 1951.
28. KINDWALL, J. A. The aims of psychiatry. *Ment. Hyg.*, 1937, **21**, 353-372.
29. KOBRIN, S. The conflict of values in delinquency areas. *Amer. Sociol. Rev.*, 1951, **16**, 653-661.
30. LEWIN, K. Resolving Social Conflicts. New York: Harper, 1948.
31. ———. Field Theory in Social Science. New York: Harper, 1951.
32. MATZA, D., & SYKES, G. Juvenile delinquency and subterranean values. *Amer. Sociol. Rev.*, 1961, **26**, 217-220.
33. MCDAVID, E., & MCCANDLESS, B. Psychological theory, research and juvenile delinquency. *J. Crim. Law, Criminol. & Police Sci.*, 1962, **53**, 1-14.
34. MERTON, R. K. Social Theory and Social Structure. Glencoe, Ill.: Free Press, 1957. Chap. IV-V.
35. MORRIS, N. The Habitual Criminal. Cambridge, Mass.: Harvard Univ. Press, 1951. Pp. 327-328, 368-369.
36. MORRIS, T. The Criminal Area. London: Kegan Paul, 1958.
37. MOWRER, O. H. Learning Theory and Behavior. New York: Wiley, 1960.
38. NEWCOMB, T. M. Social Psychology. New York: Holt, 1958.
39. NYE, F. Family Relationships and Delinquent Behavior. New York: Wiley, 1958.
40. PLOSCOWE, M. Some causative factors in criminality: Report on the causes of

crime. In *Report of the National Commission on Law Observance and Law Enforcement* (Vol. 1). Washington, D.C.: Government Printing Office, 1931. Pp. 114-116.

41. PORTERFIELD, A. L. Delinquency and its outcome in court and college. *Amer. J. Sociol.*, 1943, **49**, 199-208.
42. ROBISON, S. M. Juvenile Delinquency. New York: Holt-Dryden, 1960.
43. ROUSSEAU, J. J. The Social Contract. New York: Dutton, 1950.
44. SCHUESSLER, E. F. The deterrent influence of the death penalty. *Ann. Amer. Acad. Pol. & Soc. Sci.*, 1925, **285**, 54-62.
45. SELLIN, T. Culture, Conflict and Crime. New York: Social Science Research Council, 1938.
46. ———. Memorandum submitted to the Royal Commission on Capital Punishment, 1949-1953. In *Minutes of Evidence of the Royal Commission on Capital Punishment 1949-1953*. London: H. M. S. O., 1954.
47. SHAW, C. R., & MCKAY, H. D. Juvenile Delinquency and Urban Areas. Chicago: Univ. Chicago Press, 1942.
48. SHELDON, W. H. Varieties of Delinquent Youth. New York: Harper, 1949.
49. SHOHAM, S. Towards a behavioural concept of crime. *Cambridge Opin.: Criminol.*, 1960, **23**, 30-36.
50. ———. The application of the "culture conflict" hypothesis to the criminality of immigrants in Israel. *J. Crim. Law, Criminol. & Police Sci.*, 1962, **53**, 207-214.
51. ———. The theoretical boundaries of criminology. *Brit. J. Criminol.*, 1963, **3**, 231-247.
52. SHOHAM, S., & SANDBERG, M. Suspended sentences in Israel. *Crime & Delinq.*, 1964, **10**, 47-83.
53. SIMMEL, G. The sociology of conflict. *Amer. J. Sociol.*, 1903-1904, **9**, 490.
54. STOUFFER, S., & TOBY, J. Role conflict and personality. In Parsons, T., & Shils, E. A. (Eds.), *Toward a General Theory of Action*. Cambridge, Mass.: Harvard Univ. Press, 1959. Pp. 481-496.
55. SUTHERLAND, E. H. The Professional Thief. Chicago: Univ. Chicago Press, 1937.
56. ———. White collar criminality. *Amer. Sociol. Rev.*, 1940, **5**, 1-12.
57. ———. White Collar Crime. New York: Dryden, 1949.
58. SUTHERLAND, E. H., & CRESSEY, D. R. Principles of Criminology (6th ed.) Chicago: Lippincott, 1960.
59. SYKES, G., & MATZA, D. Techniques of neutralization: A theory of delinquency. *Amer. Sociol. Rev.*, 1957-1958, **22**, 664-670.
60. THIBAUT, J. W., & KELLEY, H. M. The Social Psychology of Groups. New York: Wiley, 1959.
61. TOBY, J. Criminal motivation: A socio-cultural analysis. *Brit. J. Criminol.*, 1962, **2**, 325-336.
62. TRASLER, G. The Explanation of Criminality. London: Routledge & Kegan Paul, 1962.
63. UNITED STATES DEPARTMENT OF JUSTICE. Uniform Crime Reports for the U.S., 1958. Washington, D.C.: Federal Bureau of Investigation, 1959.
64. UNITED STATES NATIONAL COMMISSION ON LAW OBSERVANCE AND ENFORCEMENT. Social factors on juvenile delinquency. In *Report on the Causes of Crime*. Washington, D.C.: U.S. Government Printing Office, 1931.
65. VEBLEN, T. The Theory of the Leisure Class. New York: Macmillan, 1912.
66. VON HENTIG, H. Punishment. London: Hodge, 1937. Pp. 11, 135.
67. ———. Limits of Deterrence. *J. Crim. Law & Criminol.*, 1938-1939, **29**, 558-567.

68. WHITEHEAD, A. N. Adventure of Ideas. Harmondsworth, Middlesex: Pelican Books, 1948. P. 43.
69. WHYTE, W. F. Street Corner Society. Chicago: Univ. Chicago Press, 1943.

Institute of Criminology
Bar-Ilan University
Ramat-Gan, Irsael

The Journal of Social Psychology, 1964, **64**, 217-223.

GUILT AND RESISTANCE TO TEMPTATION IN JAPANESE- AND WHITE-AMERICANS*

Department of Psychology, Michigan State University; and Department of Educational Psychology, University of Wisconsin

ROBERT E. MCMICHAEL AND ROBERT E. GRINDER[1]

A. PROBLEM

The differential influence of Samoan and White-American cultures on conscience development has recently been reported by Grinder and McMichael (7). Their finding that Samoan children demonstrated weaker conscience development than White children presumably resulted from the fact that Samoan families stress external controls (shame) and American families stress internal controls (guilt) of conduct. The present investigation extends this cross-cultural research on conscience development to Japanese-American families, by determining whether Japanese-American and White-American children in Hawaii differ in their resistance to temptation and guilt behavior.

In the Japanese culture, children are taught by act and by word to express their feelings with cautious restraint, to emphasize reticence in personal relations, to put a premium on proper conduct, and to watch the judgment of the public upon their deeds (2, p. 224). In comparison, White-American children are more specifically taught to be self-responsible and accountable according to adult standards of conduct. One would expect, therefore, on the basis of the greater "shame" orientation of the Japanese culture, that Japanese children would show weaker internal control of their behavior than American children. Although the Japanese- and White-American children in this study share in common some American socializing influences, the personal histories of the Japanese youngsters are also likely to include traditional Japanese upbringing in a number of respects. More particularly, in Hawaii, the Japanese children may be sent to a Japanese-language school, they usually practice an oriental religion, and they are expected to participate in family activities designed to preserve Japanese traditions. They should differ in conscience development, therefore, from White-American children.

* Received in the Editorial Office on June 9, 1964, and given special consideration in accordance with our policy for cross-cultural research.

[1] We thank the personnel and administration of the University of Hawaii Campus School for the cooperation and assistance which made this study possible. We also thank Charles Hanley and Ann Carlman for their technical and editorial assistance.

B. Method

1. *Subjects*

All *S*s were seventh-grade students in a public school administered by the University of Hawaii on its Honolulu campus. The 15 Japanese-American (JA) children (nine boys, six girls) and eight White-American (WA) children (five boys, three girls) were randomly selected for participation in the study from each of several seventh-grade classrooms. Both groups of children were equivalent with respect to such characteristics as age, number of siblings, and father's occupational level. For both groups, age ranged from 12 to 13 with a median of 12.4; number of children in the family ranged from one to four with a median of two; and paternal occupations varied from semiskilled to professional positions, most fathers being skilled or semi-professional people.

All *S*s were natives of Hawaii, always attended public school, and lived in a metropolitan area. Essentially the two groups differed only in that the Japanese-Americans had also been extensively and intimately exposed to Japanese teachings about personal values and conduct.

2. *Measures and Procedure*

a. Resistance to temptation. The test and procedure, which has been presented in detail elsewhere (5, 6), involves a realistic game situation employing a ray-gun pistol and a rotating rocket in a target box. Each child plays the game individually. He has 20 shots at the rotating rocket. His score on each shot can range from zero to five and is immediately registered by lights on the front of the target box. Having previously been shown how to operate the ray gun and to keep score, each individual *S* was called from class and accompanied by the experimenter (E_1) to the test room. Upon reaching the door of the test room, *S* was told that E_1 had work to do down the hall so that *S* was to go ahead and play the game by himself, bringing his score sheet to E_1 when finished.

In this situation, *S* knows that if he gets a total score of 35 points, he will be awarded a marksman badge; 40 points, a sharpshooter badge; and 45 or more points, an expert badge. Unknown to the *S*, however, is the fact that the score lights have been arranged such that only 32 points will appear during a 20-shot sequence. He therefore must falsify his score if he is to win a badge. To do so constitutes yielding to temptation; correct reporting of scores indicates resistance to temptation.

It was not possible to have all children in every classroom play the game,

but all were led to believe that each had an equal chance of being called to participate. A number of students other than the Japanese and White *Ss* in every classroom played the game, however, in order to preclude the possibility that the children would think any particular ethnic or racial group was being given unusual attention.

b. Guilt after transgression. Guilt was assessed two weeks later with five stories designed to elicit responses indicative of guilt after transgression (1, 7). In each story the main character transgresses some socially expected standard of conduct without being detected. Every *S* pretends he is the main character and the story is about him. He indicates how he would feel and behave in each story situation by checking one alternative on each of several multiple-choice items. There are items for each of three ways of showing guilt; namely, by remorse, confession, and restitution. The alternatives for each item are weighted according to the strength of the response. Summing weighted scores across the stories separately yields a total possible score from 5 to 15 (low to high) for both remorse and confession, and from 3 to 9 (low to high) for restitution (7).

To insure that the *Ss* would not know that the game and stories were related, a second experimenter (E_2) administered the stories. As an additional precaution, E_2 gave the stories as a group test to all the students in the classrooms in order that those who had previously been *Ss* in the game situation would not be singled out.

C. Results

Boys and girls did not significantly differ on either the resistance measure or the guilt measures; consequently, their scores were combined in the main analyses.

1. *Resistance to Temptation*

a. Do the JA and WA Ss differ in resistance to temptation? The number of *Ss* in the JA and WA groups who yielded to or resisted temptation is shown in the upper portion of Table 1. In both groups more *Ss* yielded than resisted, and the relative proportion of resist-yield in each group is about the same. A Fisher exact test on these data is not significant ($p = .40$, one-tailed).

2. *Guilt After Transgression*

a. Do the groups differ in strength of conscience development in terms of guilt after transgression? Mean scores on the three guilt measures appear in the bottom portion of Table 1. The differences on each measure between the JA and WA groups were tested for significance using one-tailed Mann-

Whitney *U* tests of significance corrected for ties. While the JA group does have the higher mean score on all three measures, none of the differences reaches the acceptable .05 significance.

b. Is there a relationship between response to temptation and guilt after transgression? Comparisons were made among the JA-Resist and -Yield and the WA-Yield subgroups on each of the three guilt measures. The WA-Resist group was not used because it had only two *S*s. None of the differences among the subgroups is statistically significant, suggesting that there is no necessary relationship between how a subject behaves when faced with a temptation situation and how susceptible he is to guilt after he has transgressed.

c. Do the JA and WA Ss differ in the way they depict guilt after transgression? All three guilt measures correlate positively with one another for the total sample. The Spearman correlation between remorse and confession is .35 ($p < .05$); between remorse and restitution, .37 ($p < .05$); and between confession and restitution, .58 ($p < .01$). The magnitude and associated one-tailed probabilities of the remorse-confession and remorse-restitution correlations are, however, notably lower than previously observed (7). Inspection of the score distributions for the JA-Resist and -Yield and the WA-Yield subgroups shows this to be principally attributable to the JA-Yield subgroup. For this subgroup the correlation between remorse and confession is .05, and the correlation is .11 between remorse and restitution. Similar analysis also indicates that while confession and restitution are significantly correlated for the JA-Yield subgroup, this is not the case for the WA *S*s who yield. These results suggest that while *S*s of different ethnic groups who yield to temptation may resemble others in degree of guilt after transgression, they do not express it in the same way.

TABLE 1
NUMBER OF SUBJECTS RESISTING OR YIELDING TO TEMPTATION AND MEANS OF GUILT MEASURES

Test	Measure	Sample JA	Sample WA
Temptation test	Resist	6	2
	Yield	9	6
Story test	Remorse	13.4	12.9
	Confession	14.1	13.2
	Restitution	8.9	7.9

D. Discussion

In terms of both resistance to temptation and guilt after transgression, the results for the JA and WA children are consistent with those previously

found for White-American children in Hawaii (7) as well as the mainland United States (6). Typically, in the temptation test, more children yield than resist, and the proportion who resist and yield is about the same. And, on the story test, a relatively high degree of guilt after transgression is depicted on each of the three measures. Thus, in terms of both facets of conscience strength, the JA and WA children resemble one another as well as other children who have an American middle-class background. While this resemblance between the JA and WA groups is consistent with the interpretation that the JA children show much the same conscience development due to assimilation of American standards of conduct, further research is in progress which will serve as a check on the credibility of this notion.

The finding that there is no significant relation between resisting or yielding to temptation and guilt after transgression was also the case in the previous study on Samoan and White-American children (7).[2] It might at first glance seem unreasonable that there is a lack of association between how a group of children actually do behave and how they say they will feel and behave. A positive relation would be expected, however, only if "conscience" were a stable general trait and manifested itself in any moral and ethical situation in the same fashion (3). Additional research is needed, however, to assess the following possibilities: (*a*) resistance to temptation relates to strength of conscience development, but the association is nonlinear; (*b*) resistance to temptation associates nonlinearly with strength of conscience development depending upon the cultural background, age, sex, and social class of subjects. The last point may help to explain why, for example, Rebelsky *et al.* (9), in contrast to this and the previous study, found that children who resisted temptation used confession more often than those who yielded.

An unequivocal answer regarding the question as to whether or not JA and WA children differ in the way they depict guilt after transgression is not warranted on the basis of the results. On the assumption that the correlations on the guilt measures for the JA-Yield group are reliable, it is unusual to find remorse uncorrelated with both confession and restitution. It may be that in this group of children, regardless of whether or not they feel remorse, when they do confess their transgressions they also make restitutions. It is in the Japanese tradition to confess and to make amends, and these learned behaviors may not be accompanied by feelings of remorse. It would seem prudent, how-

[2] In the previous study, the subjects who resisted temptation scored significantly higher on the remorse guilt measure than did those who yielded to temptation. This difference, however, was due to the fact that the Samoan children, all of whom yielded, constituted 70 per cent of the yield group.

ever, to wait for further empirical research in this regard before deciding on a psychological interpretation of the finding.

As in the previous study (7), there was no significant difference between boys and girls in terms of their responses to either test situation. Other studies using a story-completion test similar to the present one, however, have reported that girls tend to "depict" stronger guilt than do boys (4, 6, 8, 9, 10). By way of pointing to possible bases for these disparate findings, it seems that the appearance of sex differences in conscience development may well depend upon (*a*) how conscience development is assessed; (*b*) age and socio-economic class of the subjects; (*c*) cultural setting in which *S* is reared or tested; and (*d*) sex, age, and personality characteristics of the experimenter. In all the research to date, one or more of the above reasons may account for the varying results reported regarding sex differences in conscience development.

E. Summary

This study extends previous cross-cultural research on conscience development to Japanese-American children. Japanese- and White-Americans are compared on two facets of conscience development; namely, resistance to temptation before transgression and responses of guilt after transgression. The results indicate no overall difference between the two groups of children in either facet of development. There is some indication that the Japanese children who yield to temptation differ from other children in the way they depict guilt. No sex differences were found. The resemblance in conscience development between the Japanese and the White children appears to be due to the effect of American culture.

References

1. Allinsmith, W. The learning of moral standards. In D. R. Miller & G. E. Swanson (Eds.), *Inner Conflict and Defense*. New York: Holt, 1960. Pp. 141-176.
2. Benedict, R. The Chrysanthemum and the Sword: Patterns of Japanese Culture. Boston: Houghton Mifflin, 1946.
3. Burton, R. V. Generality of honesty reconsidered. *Psychol. Rev.*, 1963, **70**, 481-499.
4. Burton, R. V., Maccoby, E. E., & Allinsmith, W. Antecedents of resistance to temptation in four-year-old children. *Child Devel.*, 1961, **32**, 689-710.
5. Grinder, R. E. New techniques for research in children's temptation behavior. *Child Devel.*, 1961, **32**, 679-688.
6. ———. Parental childrearing practices, conscience, and resistance to temptation of sixth grade children. *Child Devel.*, 1962, **33**, 803-820.
7. Grinder, R. E. & McMichael, R. E. Cultural influence on conscience development: Resistance to temptation and guilt among Samoans and American Caucasians. *J. Abn. & Soc. Psychol.*, 1963, **66**, 503-507.
8. Hartshorne, H., & May, M. A. Studies in the Nature of Character: Vol. 1. Studies in Deceit. New York: Macmillan, 1928.

9. Rebelsky, F., Allinsmith, W., & Grinder, R. E. Resistance to temptation and sex differences in children's use of fantasy confession. *Child Devel.*, 1963, **34**, 955-962.

10. Sears, R. R., Maccoby, E. E., & Levin, H. Patterns of Child Rearing. Evanston, Ill.: Row, Peterson, 1957.

Department of Psychology
Michigan State University
East Lansing, Michigan

The Journal of Social Psychology, 1964, **64**, 225-229.

MALE-DOMINANT AND EQUALITARIAN ATTITUDES IN JAPANESE, JAPANESE-AMERICAN, AND CAUCASIAN-AMERICAN STUDENTS*

University of Hawaii, University of Illinois, and Tokyo University of Education

ABE ARKOFF, GERALD MEREDITH, AND SHINKURO IWAHARA

A. PROBLEM

Recent research in Japan has shown considerable change in marriage attitudes (4, 13). In general, there appears to be a rapid movement away from traditional patterns of male dominance toward a greater equalitarianism. However, it has been pointed out that Japanese marriage attitudes are not as simple nor as consistent as has sometimes been assumed (7, 14).

Students of American marriage have chronicled the decline of male authority in the marital relationship, and several have concluded that contemporary marriage in this country is highly equalitarian (5, 6). This change has generally been lauded, and the evidence from a number of studies suggests that there is greater happiness and stability in marriages which approach or achieve an equalitarian status (e.g., 6, 10).

Japanese Americans in Hawaii might be expected to share the attitudes of both cultures. A recent study (2) demonstrated a significant difference between male and female college students of this group, with the former more male-dominant and the latter more equalitarian in marriage attitude. However, a comparable group of male and female Caucasian Americans showed no important discrepancy in marriage attitudes.

With the availability of comparable groups of students in Japan, it became possible to increase the scope of the research. In the present study—an extension of the one just noted—an attempt was made to determine the marriage-role attitudes of a group of Japanese and to evaluate these attitudes in the light of those found in Japanese-American and Caucasian-American subjects.

B. METHOD

Marriage-role attitudes were measured through the use of an instrument devised by Jacobson (9, 10). In completing the instrument, a subject indicates the extent of his agreement or disagreement with each of 28 items using a

* Received in the Editorial Office on June 16, 1964, and given special consideration in accordance with our policy for cross-cultural research.

five-point scale. (Sample items: "The husband's wishes should be first in most things." "The wife should take a job if she wants to.") Each item is scored from one to five in such a way that a low total score indicates a male-dominant attitude toward marriage while a high score represents an equalitarian one.

For administration to the Japanese *Ss*, the scale was translated into Japanese. Equivalence of the English and the Japanese forms was based on the judgments of four professors of English (two Japanese, one American, one British) at Tokyo University of Education and on several Japanese psychologists and graduate students.

The *Ss* of the investigation were 145 Japanese (48 males, 97 females), 75 third-generation Japanese Americans (26 males, 49 females), and 60 Caucasian Americans (30 males, 30 females). All of the *Ss* were enrolled in introductory psychology courses, the Japanese at Nara Gakugei University and Yokohama National University and the Americans at the University of Hawaii.

C. Results

The data of the several Japanese universities were pooled since they did not prove to differ significantly with respect to mean ($t = 0.295$ for males and 0.374 for females) or variance ($F = 1.40$ for males and 1.52 for females).

Means and standard-deviation estimates of the scores of each group of subjects are presented in Table 1.

TABLE 1
MARRIAGE-ROLE ATTITUDE SCORES

Group	*N*	*M*	*SD*
Caucasian-American males	30	84.4	12.52
Caucasian-American females	30	89.6	13.97
Japanese-American males	26	77.6	8.61
Japanese-American females	49	86.5	8.72
Japanese males	48	81.5	10.04
Japanese females	97	93.9	8:90

The effects of sex and ethnic factors were determined by an unweighted-means analysis of variance (15). The results of this analysis are presented in Table 2. They indicate that both sex and ethnic status were significantly related to marriage attitude, but the interaction of these two variables was not significant. There was a significant overall difference in variance among the six subgroups (Bartlett's $\chi^2=20.759$, $df=5$, $p < .01$); but the ratio of the maximum to the minimum variance was 2.62, which was not large enough to invalidate the conclusion of the analysis (11).

Although the analysis of variance failed to indicate a significant interaction between sex and ethnic factors, an attempt was made to test the significance of the differences between the ordered means of the six subgroups by the modified Tukey method as suggested by Ryan (12), in which the standard

TABLE 2
ANALYSIS OF VARIANCE

Source	*MS*	*df*	*F*	*p*
Ethnic	726.6468	2	6.929	$<.005$
Sex	4482.6320	1	42.747	$<.001$
Interaction	248.2798	2	2.368	$<.100$
Error	104.8631	274		

errors of the mean differences were calculated based on the paired samples concerned. The results are summarized in Table 3.

No significant difference in variance was obtained between the sexes of any ethnic group. The largest variance ratio, that of the Japanese group, was only 1.29. Consequently, the weighted mean variance was computed for each of the three ethnic groups; it proved to be 182.01, 87.56, and 77.44 for the

TABLE 3
SIGNIFICANCE OF DIFFERENCES OF ALL ORDERED PAIRS OF SIX GROUP MEANS

Group	Mean	Jf	C-Af	J-Af	C-Am	Jm	J-Am
Japanese females	93.9	—	ns	*	*	*	*
Caucasian-American females	89.6		—	ns	ns	*	*
Japanese-American females	86.5			—	ns	ns	*
Caucasian-American males	84.4				—	ns	ns
Japanese males	81.5					—	ns
Japanese-American males	77.6						—

Note: The starred differences were significant at the 5 per cent level.

Caucasian-American, the Japanese-American, and the Japanese subjects, respectively. Ryan's method of adjusted significance levels was applied for the multiple comparisons of the three variances, and the results yielded a significant difference only between the Caucasian Americans and each of the other two ethnic groups.

D. DISCUSSION

The significance tests for the multiple comparisons of the six means showed a comparatively strong male-dominant attitude in the Japanese-American males, a strong equalitarian attitude in the Japanese females, and a significant discrepancy in attitude between the two sexes within the Japanese and the Japanese-American groups.

Of all the six subgroups, the Japanese-American males appeared to be the

most male-dominant in attitude, although statistical significance was not achieved between this group and either of the other two male groups. Earlier studies have generally shown Japanese-American males to be low in dominance (1, 3, 8), but apparently this pattern does not extend to the marriage situation where they still expect (or, at least, wish) to be boss.

The Japanese females achieved the highest (most equalitarian) score on the scale; their mean was significantly higher than that of every other group except the Caucasian-American females. One explanation for such a finding might be that college attendance is less usual among Japanese than among American women, and therefore Japanese co-eds might be expected to be more dominant and equalitarian in their marriage attitudes. Evidence on this point is limited, but an earlier study (3) employing seemingly comparable groups did not show Japanese college women to be significantly more dominant than Japanese-American or Caucasian-American ones, and it is possible that equality in marriage has special importance for the Japanese college females.

No significant difference was found in the marriage-role attitudes of male and female Caucasians, but the Japanese and Japanese-American groups both showed significant discrepancies between sexes, the males tending to be more male-dominant and the females more equalitarian in attitude. This discrepancy might suggest a source of marital friction in these groups. Wagatsuma and De Vos (14), however, suggest that older traditional Japanese values have been well internalized and that these values may remain to affect marriage behavior more than the newer and more conscious ones; these two workers speak of a discrepancy or "behavioral lag" between expressed attitude and actual marital practice.

No significant differences were found between the males of the several ethnic groups nor between the Japanese and the Caucasian females. The Japanese-American females, however, were significantly less equalitarian than the other females, although more equalitarian than the males of their own ethnic group (but, of course, this latter group was the most male-dominant of any). Along with earlier studies, the present research suggests that Japanese-American students—and especially the males of this group—show, even in their third generation in Hawaii, patterns of deference and dominance which have been held to be classically Japanese while Japanese students show patterning which is quite "American."

E. Summary

In the present investigation an attempt was made to determine the marriage-role attitudes of a group of Japanese college students and to evaluate these

attitudes in the light of those found in comparable Japanese-American and Caucasian-American groups. *Ss* were drawn from introductory psychology courses at the University of Hawaii, Nara Gakugei University, and Yokohama National University. The research instrument was a 28-item scale measuring male-dominant and equalitarian attitudes toward marriage. Japanese-American males proved to be notably high in male dominance, while Japanese females were similarly high in equalitarianism. No significant difference was found in the marriage-role attitudes of male and female Caucasian Americans, but the Japanese and the Japanese-American groups both showed significant sex differences, the males being more male dominant and the females more equalitarian in attitude.

REFERENCES

1. ARKOFF, A. Need patterns in two generations of Japanese Americans in Hawaii. *J. Soc. Psychol.*, 1959, **50**, 75-79.
2. ARKOFF, A., MEREDITH, G., & DONG, J. Attitudes of Japanese-American and Caucasian-American students toward marriage roles. *J. Soc. Psychol.*, 1963, **59**, 11-15.
3. ARKOFF, A., MEREDITH, G., & IWAHARA, S. Dominance-deference patterning in Motherland-Japanese, Japanese-American, and Caucasian-American students. *J. Soc. Psychol.*, 1962, **58**, 61-66.
4. BABER, R. E. Youth Looks at Marriage and the Family: A Study of Changing Japanese Attitudes. Tokyo: Internat. Christian Univ., 1958.
5. BLOOD, R. O., JR. Marriage. New York: Free Press of Glencoe, 1962.
6. BLOOD, R. O., JR., & WOLFE, D. M. Husbands and Wives: The Dynamics of Married Living. New York: Free Press of Glencoe, 1960.
7. DE VOS, G., & WAGATSUMA, H. Value attitudes toward role behavior of women in two Japanese villages. *Amer. Anthropologist*, 1961, **63**, 1204-1230.
8. FENZ, W. D., & ARKOFF, A. Comparative need patterns of five ancestry groups in Hawaii. *J. Soc. Psychol.*, 1962, **58**, 67-89.
9. JACOBSON, A. H. A study of conflict in attitude toward the roles of the husband and wife in marriage. Unpublished Doctoral dissertation, Ohio State University, Columbus, Ohio, 1950.
10. ———. Conflict of attitudes toward the roles of husband and the wife in marriage. *Amer. Sociol. Rev.*, 1952, **17**, 146-150.
11. LINDQUIST, E. F. Design and Analysis of Experiments in Psychology and Education. Boston: Houghton Mifflin, 1953.
12. RYAN, T. A. Significance tests for multiple comparison of proportions, variances, and other statistics. *Psychol. Bull.*, 1960, **57**, 318-328.
13. STOETZEL, J. Without the Chrysanthemum and the Sword: A Study of the Attitudes of Youth in Post-War Japan. New York: Columbia Univ., 1955.
14. WAGATSUMA, H., & DE VOS, G. Attitudes toward arranged marriage in rural Japan. *Hum. Organization*, 1962, **21**, 187-200.
15. WALKER, H. M., & LEV, J. Statistical Inference. New York: Holt, 1953.

Department of Psychology
University of Hawaii
Honolulu 14, Hawaii

The Journal of Social Psychology, 1964, 64, 231-239.

PRIMARY AND SECONDARY PROCESS AS REFLECTIONS OF CATASTROPHE: THE POLITICAL CARTOON AS AN INSTRUMENT OF GROUP EMOTIONAL DYNAMICS* [1]

Department of Psychology, Hunter College

IRVING R. STUART

A. PURPOSE

The increased attention to the reactions of people to intense and unexpected catastrophe has had a number of obvious stimuli. The ease with which man can irradiate his neighbors has finally made the impression that this is a two-sided weapon. Most contemporary studies by behavioral scientists have been concerned with reactions to natural catastrophies resulting from the weather, carelessness, and accidents.[2] Field studies have faithfully recorded responses to detailed questioning of individuals, as well as the observations of trained personnel. Man-made disasters, such as atomic bombings and more conventional destructive attacks on humans, have also been probed and recorded—again in the dry, unemotional tones of science. Investigations of such traumatic happenings have always been handicapped by difficulties in immobilizing the emotions of relatively brief periods of time. There is a need for a form which would permit later analysis without the destruction of the fragile structure of initial reactions and contamination by human emotional elasticity.

The application by Hermann Rorschach of a technique which utilized a visual stimulus in two-dimensional form to illuminate the subsurface of the individual personality has been the subject of innumerable attempts to refine and validate the method and its conclusions during the past twenty years. Despite current scoring techniques which attempt to meet the quantitative qualifications of the mathematical sciences, the unique patterning of the personality of the respondent still largely escapes analysis—that is, when we adhere strictly to interpretations from the arithmetical accumulation of scores.

* Received in the Editorial Office on March 21, 1963. Copyright, 1964, by The Journal Press.

[1] This study is part of a continuing investigation of the reflections of group anxiety as reactions to disaster through the media of political art. The investigation has been made possible by a grant from the American Academy of Arts and Sciences.

[2] Symposium on Stress, Army Medical Service Graduate School, Walter Reed Army Medical Center, Washington, D.C., 1953.

In an attempt to make the scoring more flexible and to preserve the intuitative aspects more truly representative of the emotional and physical amalgam in human cognitive perceptions, Holt (3, p. 154) engaged in a series of investigations of the manner in which concepts of psychoanalytic dream processes were incorporated in Rorschach protocols. Freud had presented his conception of the two major drives in personality structure, primary and secondary process, in his "Interpretation of Dreams." By "primary process" he meant those genetically basic energies which were reflected in activities directed toward growth, maintenance, and reproduction. Secondary process reflects those realities of the world around us which are incorporated in the logical, rational, and "consciousness-of-others" behavior of the organism. He found that primary process is more in evidence in the dreams of people under extreme stress, where their ability to control their behavior in accordance with accepted standards was threatened; this was accompanied by a rise in anxiety because of a danger to the self-system. Furthermore, he believed that primary process forms the essential structure of the creative process energizing artists. We believe that they concretize, and make pictorial, primary process under group conditions of extreme stress in the form of group "art," cartoons, and caricatures.

Artists are the sole recipients of society's permission to engage in creative activity which disregards time sequences. Artists can thus restructure reality in a personal cognitive form which would be seriously questioned, and even punished, in individuals not so privileged. It is nowhere denied in any culture that the artist is concerned with transmitting individual and group values (particularly emotional ones) into tangible, visible forms. In fact, he is rewarded for just this sensitivity alone. The successful artist has his antennae constantly quivering as a receptor of the emotions of his environment—personal or group, internal or external. In thus recording—skillfully or otherwise—his own and his fellow's feelings, the artist in his own medium preserves the essentials of his period which give body to the structure of his society and the influential events through which it passes. In this way he is a preserver of primary data reflecting the emotional equilibrium level of his group and its convulsive writhings to restore a measure of stability.

It is the purpose of this study to explore the possibilities of developing an instrument for the evaluation of emotional levels in large groups. The author believes that pictures overcome the limitations inherent in the spoken record preserved for analysis in cold typescript. Artistic productions created for group consumption during periods of extreme stress closely parallel the undecorated emotions more truly representative of the feelings of the time. The greater the stress, the less likely they are to be bound by the conventions of the culture.

B. Method

The problem of securing a sufficient number of examples of artwork representative of a period of extreme stress was fortunately solved by a collection of cartoons and caricatures reflecting French reactions to the disaster of the Franco-Prussian War, 1870-1871. The collection[3] spanned the period from the beginning of the war on July 17, 1870—with the French expectation of speedy and complete victory—through the debacle of the capture of entire French armies and of the Emperor, Napoleon III; the catastrophic siege and bombardment of Paris; and the Paris Commune with its civil-war slaughter which ended in May, 1871. During these eleven months, the world for the French was really turned upside down and disaster was piled upon hopes which were followed immediately by other catastrophies.

A total of 561 pictures comprising the entire collection of a private collector were classified on the basis of ideational drive representations. These were further subdivided into libidinal, aggressive, and anxiety-guilt categories according to their exhibition of primary and secondary process characteristics in action and symbolism (3). Table 1 illustrates the chronological appearance of libidinal themes, while Table 2 shows the division into object-oriented (masochistic) and subject-oriented (sadistic) elements, as well as those which exhibited anxiety and guilt feelings.

C. Results

One of the most interesting things about this period of unceasing disaster for the French, strikingly borne out by the pictorial record, is the presence of a huge number of pictures (27 per cent of the total) which practically bellowed primary process. It is difficult to conceive of anyone paying in public, or even in private for that matter, the few sous demanded for a picture of Napoleon III and several of his ministers superimposed on a pile of human feces. Yet all of these pictures were printed for profit by their publishers, were hawked openly on the streets by children of all ages, and were placed for sale at most newspaper kiosks and printshops (2, 7). Numerous examples of raw emotionalism, incorporating vivid action and suggesting the type of physical aggression which usually shocks a dreamer awake, formed a significant proportion of the themes. That they were ever committed to print by other than seriously ill artists is not as significant as the emotional implications of their acceptance by the general public who purchased them by the thousands. An issue of fifty thousand for one of the more conventional sadistic representations was reported by one artist (2, p. 421).

[3] The author is indebted to Mr. Joseph Klein of New York City for cooperation in making his collections available for study.

TABLE 1

LIBIDINAL THEMES IN IDEATIONAL PRIMARY AND SECONDARY PROCESS REVEALED IN CARICATURES AND CARTOONS OF THE FRANCO-PRUSSIAN WAR

	Oral		Anal		Sexual		Exhibitionistic-voyeuristic		Sexually ambivalent	
	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary
September			3	2		1				
October		1	4					1		
November			3	3	3	3	1			
December				2	2	1	2			
January					1					
February	1		1		1		1			
March				1	5	1	3	2	2	4
April					5	5	3			
Total	1	1	11	8	17	11	10	3	2	4

Table 2

AGGRESSION AND ANXIETY-GUILT REVEALED IN CARICATURES AND CARTOONS OF THE FRANCO-PRUSSIAN WAR

Element	July P.	July S.	August P.	August S.	September P.	September S.	October P.	October S.	November P.	November S.	December		January P.	January S.	February P.	February S.	March P.	March S.	April P.	April S.	May P.	May S.	Total
												Aggression											
Subject-oriented																							
Potential	0	4	0	9	0	6	0	2	1	1	0	2	1	1	2	0	1	6	0	1	0	0	37
Active	0	3	0	0	2	2	4	3	0	4	2	2	0	3	5	1	12	12	1	2	2	2	62
Completed					1	2	1	1									5	5	1				16
Object-oriented																							
Potential		1		1	1	3	2	2	0	2	2	1		1	2	2	1	2		2			25
Active		2	1		7	15	2	12	2	21	3	15	2	7	3	14	15	47	5	39		5	217
Completed				1	5	8	5	7		11	1	11			2	2	1	4		1			59
												Anxiety and guilt											
		7		10		11	1	1	1	6	0	3	3	11	1	3	1	2	2	13	1		77
												Total											
	0	17	1	21	16	47	15	28	4	45	8	34	6	23	15	22	36	78	9	58	3	7	

Before the news of the completely unexepcted catastrophe of the battle of Sedan had become public knowledge on September 4, 1870, none of the heavily censored newspapers would print such pictures. After the relaxation of censorship which followed the fall of the Empire, although excesses were to be expected, no such flayed representatives of popular emotions were possible without the stimulus of extreme group pressure which demanded relief.

Inquiries into the nature of creativity have been increasingly concerned with its relationship to personal tension and emotional stress. A number of previous investigators have emphasized the impossibility of creativity completely untainted by drives, just as representation of "pure" primary process in art objects was also considered inconceivable (4, 5). The art object, as a result of the creative process, is a blend in varying proportions of emotional and physical influences which have been tinted by the cognitive perceptions of the creator. In turn, these are constructs depending upon the system of wants and satisfactions of the group and its interpreter. Although these pictures exhibited essential features of primary and secondary process, a surprising number were closer to the extremes of the more primitive. At best they were on the borderline between that and the more conventional representations to be expected of material produced for mass consumption. In quantitative terminology, they were skewed to the left rather than adhering to what Schafer (6, p. 91-93) found in Rorschach protocols, which ususally follow a normal curve spread along a continuum. A typical borderline case, for example, presented the gorgeously uniformed and bemedaled former Emperor as a puny and pathetic figure on hands and knees in the act of kissing the bare backside of an accommodating Bismarck (anal? oral? primary process?).

Numerous sexual themes were oriented around the publically known extramarital activities of the former Superior Sovereign, the Sire of his people. In brutality, these themes made plain the feelings of rage and frustration against the reality of French martial (male) impotency. The charges of moral turpitude made against Napoleon III, his wife Eugenie, and various prominent politicians were balanced by the motif which concentrated on the Emperor's difficulty in urinating because of bladder stones. Numerous examples represented this man in agonizing distress during the process of passing water, a psychoanalytic symbolism with uncomplicated meanings. Napoleon III's personal coat of arms was represented as a pair of crossed hypodermic syringes which often doubled as clysters—laughter provoking but not humorous.

Exhibitionistic-voyeuristic plots ranged from the covert supervision by the Emperor of his adolescent's son's sexual education by a provocative nude, to his smiling wife lying spread-eagled on a billiard table for the salacious edification of the surrounding ministers of his government, holding cue sticks

in their hands. Sexual ambiguity, related by Adorno *et al.* (1) with high personality rigidity and strong efforts to control emotional drives, only made its appearance with the advent of the civil war of the Paris Commune. Some flabby, ugly female nudes were shown with faces of male politicians well known to the public, while other pictures presented men in women's clothing with homosexual themes prominently accentuated.

Inspection of Table 1 shows that the initial impact of the disaster threw the group back to an anal level, with progressive recovery as time went on. There is movement from lower to higher levels of emotionality as the subject matter rose from the most elementary levels to comparatively "higher" ones of sexual ambivalence. The number of primary process motifs outweighs the number presented in secondary process contexts on the anal, sexual, and exhibitionistic-voyeuristic level. On this evidence we can then suggest that there was a rise in the emotional maturity level of the subjects with the passing of time beyond the period of initial impact of the catastrophe.

The libidinal depths to which the emotions of the group were driven by the shock of reality did not hold for long. The concentration on pornographic themes in March, the beginning of the Commune, was an indication of emotional progression. In addition, continued maturation was evidenced by the final picture of the Commune which returned to the familiar "Death on a White Horse," which has been accepted for centuries by the public as an allegorical illustration of destruction. Primary process in February, for example, was the result of a month when French armies had been destroyed for all practical military purposes and the people were ready to support the peace discussions which were in progress. In other words, the return to libidinal themes during this month was the last group surge of uncontrolled feelings.

The subject matter in Table 2 (beginning with the month of September, 1870) is basically sadistic and it is only by March, 1871 (the beginnings of the civil war) that there is a predominance of masochistic content. Guilt and anxiety, however, as a consequence of French inadequacy to carry out cultural expectations, personal ideals, and group images are never missing throughout the entire period. The presentation of French inadequacies, mainly invested in the shape of political representatives, never permits the viewer to forget that they had failed to achieve the goals expected of men—and, most disappointing, Frenchmen.

D. Discussion

There are emotional stages in political cartoons through which this group progressed in the reaction to the impact of disaster. The initial period of deep, basic, and unclothed exhibition of emotionality was accompanied by appeals to

cooperate and to form a mutually protective barrier to the shock. Many of the secondary process pictures in Table 2 are of an allegorical nature with figures of La France, La Belle Paris, and Frenchmen and Frenchwomen ranged against La Barbarisme (Germany). Kris (4, ch. 14) pointed out that there are positive aspects of the process by which primary drives are permitted to take over for a period of time by the healthy individual. Kris emphasized, however, that this is accomplished under the control of the ego in a mature person and results in new combinations of elements which are recombined into imaginative, amusing, or artistically stimulating patterns. This process, which abandons only temporarily the bonds of acceptable, secondary process forms, uses productively the comparative freedom of primary process. He described it as a regression in the service of the ego. Furthermore, this makes it possible to extend the logic by observing that primary process is possible as part of the conscious thinking of individuals, such as artists, who are accustomed to seek out the emotions as sources of inspirations. The combination of ideas and images which have no logical connection with reality and are still acceptable to the group is thus permissible under extreme conditions of group stress.

Pictures created under such pressures exhibit the expansion of acceptability to emotional levels which encourage destruction via vicarious participation in visually presented stimuli. On one hand we see in these pictures instruments which permitted a relaxation of anxiety-provoking restrictions by the community, while on the other hand there is the relative weakening of the artist's ego strength which permitted the increased influence of his own id forces in their drive for gratification. This is only temporary and accompanied by spontaneous regrouping and a healthy resurgence of his emotional strength evidenced by adherence to previously learned cultural standards.

The type of picture created during such periods is likely to be labeled a caricature, although there is a sharp distinction in the emotionality displayed between pictures resulting from extreme stress and those created during more normal times. Caricatures more realistically incorporate primary process, while cartoons are decked in the costume of secondary process.

E. Conclusion

The material which has been discussed in this study suggests that political cartoons are fruitful areas for the analysis of group levels of emotionality and have significant implications for the specialist in group dynamics. Not only do these cartoons indicate the maturity level on which the group is resting at the time (if we accept the contention that the political artist transmits the emotions of the group of which he is a member), but they also permit the

venting of group emotions in a vicarious manner—with the group's approval —which under normal circumstances would be prohibited. An estimation of the level of the group's emotional state as a result of traumatic experiences is available through the evidence of such material.

References

1. Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., & Sanford, R. N. The Authoritarian Personality. New York: Harper, 1950.
2. Grand-Carteret, J. Les Moeurs et la Caricatures en France. Paris: La Librarie Illustrée, 1888.
3. Holt, R. R. Gauging primary and secondary processes in Rorschach responses. *J. Proj. Tech.*, 1956, **20**, 154.
4. Kris, E. Psychoanalytic Explorations in Art. New York: Internat. Univ. Press, 1952.
5. Rapaport, D. Organization and Pathology of Thought. New York: Columbia Univ. Press, 1951.
6. Schafer, R. Psychoanalytic Interpretation in Rorschach Testing. New York: Grune & Stratton, 1954.
7. Vizetelli, E. A. My Days of Adventure. London: Chatto & Windus, 1914.

Department of Psychology
Hunter College in the Bronx
Bedford Park Boulevard West
New York 68, New York

The Journal of Social Psychology, 1964, 64, 241-247.

EXPERIMENTAL GROUP THERAPY IN A SENIOR HIGH SCHOOL*

Cubberley Senior High School, Palo Alto, California

N. D. Carlson and Gerald Weinberger

A. Introduction

The public secondary school admits all youngsters and endeavors to give them equal opportunities to learn and to mature. Many youngsters are unable to respond, for various reasons, to the benefits of such an educational opportunity and drop out or are expelled. Records have indicated, however, that many of these youngsters had the ability and capacity for successfully finishing a high-school education but, because of apparent emotional problems, were not able to adjust to the high-school society. This is a report of an experimental therapy group which was conducted in a senior high school as an attempt to alleviate the drop-out problem and to discover if such a program would help youngsters in making a positive adjustment to the comprehensive high-school situation.

An intern clinical psychologist (Gerald Weinberger) and a member of the teaching staff with counseling experience (Del Carlson) were cotherapists of the group. Gordon Parsons (dean of boys) and Don Ehrman (a clinical psychologist in private practice) were consultants to the program.

The following is an excerpt from the faculty meeting presented at the close of the school year when the group had been in full operation for nine months. It is presented as it happened in order to acquaint you with the feelings and the reactions that the faculty showed towards the program.

B. The Faculty Meeting

Dean of Boys. This high school has always been concerned with two or three facets of the drop-out problem: concerned that some youngsters *do* float away in the community, and, concerned that the school sometimes makes it *easy* for them to float away in the community. If we are going to continue working in this teen-age realm, we must learn more about the acting-out adolescent. And this is the particular area we will be talking about today.

Many of you are acquainted with the fact that we have carried on an experimental group-therapy class these past nine months in order to see if we could help these youngsters who are potential dropouts. Now I'd

* Received in the Editorial Office on March 27, 1963. Copyright, 1964, by The Journal Press.

like you to meet the clinical psychologist who has been the consultant to this program. Would you like to begin and tell us how you've seen the past months?

Consultant. I would like to talk to you about where the idea of group therapy comes from, how it fits into a school, and how particularly it fits into this school.

Many people have said this is a time of conformity—mass pressure—and there is a great deal of evidence to this. In industry, for example, one of the popular modern ways of solving a problem is to toss it to a group of people rather than to individuals. You have, of course, heard of these "brainstorming" sessions. A number of high-powered people literally think out loud. This is, in effect, a group method of figuring things out.

The Chinese Communists use group pressure very effectively in "brainwashing" or "thought control." Actually, "thought control" is a method of putting a person in a group that is more advanced than he is—in this case, more advanced in terms of accepting the principles of Communist doctrine—thus producing feelings of isolation. Trying to hold oneself together under such tremendous pressure is so difficult that it is a very exceptional person who fully withstands it.

Among the uses that groups are being put to is the alleviation of emotional difficulties, because often emotional difficulties are based on an individual's isolation from his fellow beings. If a person can learn to break down his isolation by sharing common, somewhat intense, experiences with his fellows, he may become less upset.

Adolescence is the time that one writer called an "identity crisis." The adolescent is trying to define himself, to find out who he is, to break his ties with his family, to find out whether there is a world in which he can be accepted as a social being—a social equal. It is very difficult for the adolescent to do this in our mechanized society because we don't have the kind of tribal rites which effectively make the bridge from childhood to adulthood. One of the tendencies which the teen-ager has is to band together with others of his kind; because, if he isn't sure who he is, he is at least sure who they are. So, group work can be done effectively through this natural tendency of adolescents to band together. And, of course, this is what you do all the time with clubs at school, athletic teams, and all of your cocurricular activities.

Let me say a word about this particular group. This was a noble experiment. When I heard what kind of boys had been chosen for the group, I thanked heaven that I was a consultant and not the therapist. It is, without a doubt, a very tough population with which to work—terribly tough. All the skill in the world wouldn't have made it an easy job and this group began with one trained and one untrained therapist. Much has been learned about fitting therapy into the school setting. There is a great deal the therapists would tell you that they would have done differently but, in the end, the results are very impressive in terms of where the group of boys began the year and where the group is now at the close of the year.

Dean of Boys. The consultant will answer questions later on. Now let's hear from the guy who stepped right into the front line—our intern clinical psychologist.

Intern Clinical Psychologist. The best way to describe the group is to say that we began the year with nine boys and we ended the year with seven.

The junior-high-school vice-principals were asked to give us a list of the names of ten boys who were least likely to succeed in senior high, and we set this year as a "trial balloon" to work with these boys in straight group therapy.

All the boys came here with records of chronic difficulty in school, not only academically (in terms of grades), but also behaviorally in acting out in classes and fighting with their peers. Some of them had records of hitting teachers, of expulsions, of excessive cutting, and so on. We selected the boys of average or better intelligence with an intellectual range of about 95 to 115. Actually they might be a little brighter due to the fact that testing is very difficult with these boys because they are what we would consider "nonverbal." They have difficulty reading and they have even greater difficulty putting what they think or how they feel into words. Rather than express their feelings they tend to act on the moment, impulsively, restlessly, rather than think about what they are doing. Afterwards they are seldom concerned about what they have done. They tend to be nonreflective; they live in the present; the past is over and done with and the future is too far away to care about. In the group and in other classes they are negative attention getters; they are disruptive. When they walk into a class all the other kids say, "Oh, no!" They are exhibitionistic kids; they do things to make themselves visible. These are the kind of boys we started the group with.

As for group progress, it has been a long year. The focus of the group for the first four to five months was on the testing of limits. They didn't want to be in a group in the first place; and if they couldn't get out, then what could they get away with in the group. Over the course of the year they made a lot of noise in the room, damaged some chairs as they tried to get us angry, and tried to provoke us into throwing them out of the group. At the same time (and this increased as the limit testing decreased), they were concerned with how they related to us. "If we are stuck with you, what kind of guys are you?" "Can we trust you?" "Will you like us in spite of all the things we do?" They were concerned about the confidentiality of the sessions. They spent two weeks looking around the room for a tape recorder; they were sure the room was "bugged." In general, the boys felt all alone in what was a very hostile and negative world—a world in which they could trust no one. Why couldn't they? Because their past experiences had taught them that whenever they tried to get close to anyone, they got hurt or burned; and so, it was better to make it on their own, not to trust anyone, just watch out. This is an attitude we talked about as the group went on. If they got to like us and we were nice guys, guys who could be trusted, what would happen to them? How would we handle this trust?

Throughout the year there was an attempt to avoid talking about anything which they considered threatening or related to personal feelings. There was a great deal of resentment about the question "Why?" because it was the first time they had ever been asked about what they felt or thought about what they felt. This made them anxious.

You might be interested in the topics of conversation over the year. First and foremost, it was cars—constantly cars. Secondly, it was jobs—getting jobs and becoming independent. They wanted very much to be independent of their parents and of everyone else. There was a great concern about limits, not only in the room and at school, but also at home and with the local authorities. What could they get away with and how far could they go? A major topic, of course, was you, and how they felt about you as teachers. They came to this school with the attitude that teachers were no good—they were lousy, they picked on you, they were against you. One of the most gratifying things to see was the change in this attitude over the year. Another big topic of conversation was sex. Adolescents have erroneous attitudes about sex in general and our boys went to the top of the class in this—gross misconceptions about sex. One of the things we did was to simply give them information that they couldn't get elsewhere.

The last several months have been concerned with who they are and what do people think about them. After a while members of the group began asking how particular actions would reflect on the group as a whole. They are not the same as they were before, but they are still confused because they are feeling their lack of self-identity.

Dean of Boys. We would like to open the meeting to questions.

Teacher. I would like to know what has happened on the parental side. Was any attempt made to work with the boys' parents?

Dean of Boys. We were always ready to answer questions or to work with them if they came. We tried to work with the parents on this program. Most of these kids have two working parents; so parental contact is never too much. And, knowing these particular boys would tell you that the parental side of the picture is so minus it is almost nonvisible in terms of participation and cooperation.

Teacher. Did you find out what the crux of their problem was?

Teacher-Counselor. The difficulty of these boys dates back in their school records through kindergarten and first grade. It seems that they began school poorly prepared and things have accumulated as they have moved on from grade to grade. As they did negative things, teachers began acting negatively towards them. Eventually the boys began to expect this and built it on and on: the world is a pretty hostile place to live and this includes everybody, not just parents.

Teacher. Wouldn't you say that the focus of the group approach was not diagnostic but, instead, you were going to let them bring out the cause of things by themselves?

Intern Clinical Psychologist. Yes, the approach to the group has never been one of historical things, "What has happened?" but rather an inter-

personal one, "What are the things you are doing and what effect do these things have on other people?"

Teacher. I recall from one of the earlier experiments we conducted that one of the measures of the effectiveness of a group was their behavior in other classes and around school. Have we kept track of this and their behavior?

Teacher-Counselor. Yes, a luncheon meeting was held weekly where the teachers of these boys were invited to come and report or talk about the group in general.

Teacher. What's the verdict? Does a group help out in the short run? Do they learn more because of therapy?

Teacher-Counselor. I'd be reluctant to say yes after one year. I have worked with the class teachers of these boys and closely with the boys themselves, and I have gained insight. No, they are not studying more; but, they are less obstreperous, less trouble.

Teacher. How do they feel about continuing?

Teacher-Counselor. Towards the end of the group they were talking and asking about the next year. They asked if they could suggest names, and they were able to come up with the names of 25 boys in our school and many others you will be getting in your classes next year. One of the things they talked about was that they would like to be group consultants next year and help with other boys.

Teacher. I am curious about how you introduced these boys to the program. How did you tell these boys why they were selected?

Teacher-Counselor. We were pretty straight forward about it. The reasons we gave them were simple. They had been selected as boys not likely to graduate and the school was concerned about this. Their records showed chronic difficulty in school; but we were sure that they had the ability, could stay in school, and could graduate.

Teacher. Did they accept limitations?

Dean of Boys. They reached a point where they wanted the limits increased. We did so as some of their behavior became acceptable to the school situation and the therapy setting. These were accepted pretty well. As the group progressed, they began setting limits on each other's behavior. If anyone would disrupt the session, another would tell him to keep quiet and sit down.

Intern Clinical Psychologist. They expected us to act pretty much as authorities or the way that others of authority acted. In other words, if they did bad things, they were to be kicked out of the room or sent to the office; these were the limits they understood. They expected us to "take a poke" at them or kick them out of school. Part of the unlearning they had to do was to learn that not all adults do these things.

Consultant. An interesting thing about a group is the fact that you can enforce and limit what you want. It isn't really a problem.

Teacher. You've stopped in a terrible place for teachers. You said that it would be simple to enforce any limits you wished in a group. How do you mean?

Consultant. I was trying to make a point that was rather obscure. In this or in any group, the problems of enforcing limits arise from the fact that the therapists are not absolutely sure what they wanted to enforce. When the therapists became sure, they transmitted their certainty to the boys and the boys responded to these limits. The boys in the group would never admit it nor would they have recognized it, but but one of their strong motives was to please the therapists. They can't let this out in the open, but they *do* want to please.

Dean of Boys. I see that our time is just about up. Before we close I'd like to add an observation or two. I have learned from this group that these boys are very perceptive and if they sense that you are just a little unsure of yourself on what the limitations are, they move right in and become very adept at the "sea lawyer" routine. One thing we have learned this year is that in setting up a group you *must* be sure of the ground rules and then stick to them.

This brings up the question, "Should therapy be conducted in a school?" We have thought about this all year and still don't know the answer. We do know that these boys would not have been treated otherwise. They wouldn't have gone for help of a voluntary basis; their parents wouldn't have taken them; and, if they had, the facilities here are not the best. We may have to realize that since the school has assimilated so much already, it may have to do so here.

Have we succeeded this year? With the group I see a lot of changes. With individual boys I am satisfied with what has happened. I'd say this was a softening-up year. They are ready to talk now—next year.

The last thing I would like to mention, the thing that has been of great benefit to us and to the teachers, has been the Friday luncheon meeting which some of you have been attending. This has been a time for the sharing of information where we have talked about the boys in the group and where we have talked and heard about boys who are not in the group but who are like our boys. We have learned about adolescents who act out. All in all, it as been a pretty good year.

C. Results

One of the immediate results of this experiment was that the boys asked to continue in group work the following year. Positive changes were observed in their attitudes toward school and teachers—positive in the sense that they would discuss their differences more openly than before. They showed a decrease in defiant acting-out behavior.

The therapists concluded that group work can be done, and done successfully, when the leaders of a group are sure of the goals they wish to reach and present these to the group as an objective along with the ground rules for the functioning of the group.

Therapists, consultants, faculty, and administration generally felt that group

therapy-counseling could be done successfully within the school setting provided that the program had the wholehearted support and acceptance of the faculty and the administration.

Cubberley Senior High School
4000 Middlefield Road
Palo Alto, California

The Journal of Social Psychology, 1964, **64**, 249-261.

CREATIVITY AND SOCIOMETRIC CHOICE AMONG ADOLESCENTS*[1]

Kent State University

KAORU YAMAMOTO

A. INTRODUCTION

Psychologists have conducted many studies to find the factors involved in the formation and dynamics of the peer group and in the determination of status within it. Intelligence, social status, interest, and numerous other variables have been investigated as the possible determinants of clique formation, but, until recently, a variable called creativity—or the ability to do original thinking—has been rather neglected in the efforts to understand the peer-group culture.

Most studies on factors in social acceptability have used two-group designs comparing the personality characteristics of the popular subjects with those of the unpopular subjects in efforts to locate some significant determinants of sociometric status in a group. In spite of the fact that a large number of studies have been reported on this topic, no simple clear-cut picture seems to be drawn (2, 3, 6, 11, 12). Bonney's paper (1), however, suggests two variables as important in determining one's status in his peer group. The first is the possession of strong, active personality traits and abilities in addition to a pleasing disposition and interpersonal skills. The second is the principle of need fulfilment. Only a capable person is able to satisfy the needs of another capable person. Complex personalities find their best satisfactions in contacts with other complex personalities. "Perceived" similarities, rather than actual similarity, between self and others seem to be important here (4).

Exploration with creative-thinking abilities as determinants of sociometric status has not been done extensively yet. Studies by Getzels and Jackson (5) and Torrance (9) have suggested that (*a*) highly creative people tend to be identified as "most talkative" and as "having naughty, silly, or wild ideas"; (*b*) such characterization is more often attached to boys than to girls; (*c*) friendship choices are rather evenly distributed, regardless of levels of cre-

* Received in the Editorial Office on March 29, 1963. Copyright, 1964, by The Journal Press.

[1] This article is based upon the author's M.A. paper at the University of Minnesota (1960) under Dr. E. Paul Torrance. The study was supported by the Bureau of Educational Research, University of Minnesota.

ative-thinking abilities; (*d*) highly creative members receive, in a group performance situation, social pressures against their ideas and contributions; and (*e*) teachers prefer highly intelligent students to highly creative students.

Seemingly, then, a combination of strong, able characteristics and skillful interpersonal qualities is necessary for a person to be "socially successfully" creative. Whether or not highly creative people are perceived as such and accepted as friends by their peers merits further investigation. It is the purpose of this study, then, to explore the relationships between creative-thinking abilities and sociometric status among adolescents.

B. Procedures

1. *Instruments*

a. Measures of Creative Thinking. In September, 1959, two tests of creative thinking, developed at the Bureau of Educational Research, University of Minnesota, were administered to each subject in a group situation; namely, the Test of Imagination (Form DX) and the Ask-and-Guess Test. Six subscores—Fluency, Flexibility, Cleverness, Inventive level, Constructiveness, and Adequacy—were derived according to the manual (9). A total creativity score was the sum of all these subscores on all parts of the two tests. Inter-scorer reliabilities for all of the subscores have consistently been in the .90's.

Throughout this study, the term "creativity" or "creative-thinking abilities" means those abilities measured on the two pencil-and-paper tests and expressed accordingly by subjects' "total" scores on these instruments. The significance of such a concept (and, hence, scores) has been confirmed with regard to intelligence, sales production, psychosis, teacher nominations, and other factors, as reviewed and summarized by Torrance (9).

b. Peer Nomination Form. Early in June, 1960, a six-item sociometric form, developed at the Bureau of Educational Research, University of Minnesota, was administered to all subjects. The form, "Who Does It?" (Secondary Form), consisted of the following six questions which are assumed to represent criteria for fluency, originality, flexibility, inventiveness, elaboration, and friendship, respectively. On each of these, the subjects were asked to list three names from among students in their grade.

The questions follow:

1. Who in this group (your class) comes up with the *most ideas?*
2. Who has the *most original or unusual ideas?*
3. If the situation changed or if a solution to a problem wouldn't work, who in your group would be the *first to find a new way of meeting the problem?*

4. Who in your group does the *most inventing and developing of new ideas, gadgets, and the like?*
5. Who in the group is *best at thinking of all of the details involved* in working out a new idea and *thinking of all of the consequences?*
6. Who are your *best friends* in the group?

c. Measure of Intelligence. In addition, from the school records, the intelligence quotients derived from the Verbal Battery of the Lorge-Thorndike Intelligence Tests (administered in the fall of 1959) were obtained for 400 out of the 428 subjects of the study.

2. *Subjects*

The subjects were the University of Minnesota High School students (seventh through twelfth grades) during the academic year 1959-1960. They were 428 in number (219 boys and 209 girls) and constituted 93.25 per cent of the total enrollment (93.59 per cent of the boys and 92.89 per cent of the girls). Complete data were unavailable for the remaining 6.75 per cent. In no grade did the difference between the number of boys and the number of girls exceed four.

These subjects were classified into three subgroups on the basis of their total creativity scores. In each grade, those who scored in the upper fourth on creativity tests were included in the High-Creativity Group; those in the lower fourth, in the Low-Creativity Group; and those in the middle half, in the Middle-Creativity Group. The number of subjects and the means of the total creativity scores for each grade and creativity group are shown in Table 1.

TABLE 1
MEAN TOTAL CREATIVITY SCORES OF SUBJECTS BY GRADE AND CREATIVITY GROUP

Grade	Mean creativity score			Total	*SD* for total group
	High creat.	Middle creat.	Low creat.		
7	203.87(15)[a]	142.57(28)	105.93(15)	148.95(58)	37.72
8	250.11(18)	168.33(40)	108.50(18)	173.53(76)	56.06
9	316.63(19)	216.03(38)	149.68(19)	224.59(76)	67.01
10	348.19(21)	239.67(36)	166.19(21)	249.10(78)	69.71
11	336.00(18)	249.57(35)	165.33(18)	250.13(71)	69.05
12	324.94(17)	236.57(35)	152.18(17)	237.55(69)	67.87

[a] Figure in parentheses represents the number of subjects.

It is seen from Table 1 that the grouping by creativity resulted in a distinct separation among the three groups. The mean creativity scores are more than one standard deviation apart from the grade means in the cases of the High- and the Low-Creativity Groups, while the means for the Middle-Creativity Group are quite close to the grade means.

In terms of *IQ*, however, these groups did not show much difference

among them. For the six grades, the mean IQ ranged from 113.5 to 125.2 and the standard deviation ranged from 14.0 to 15.4. Only in the tenth grade did the maximum difference in IQ among the three creativity groups exceed its standard deviation.

C. Results

The mean peer-nomination scores on the six criteria are presented in Table 2 for each grade, creativity group, and sex.

TABLE 2
Mean Peer-Nomination Scores of Subjects on Six Criteria by Grade, Sex, and Creativity Group

Grade	Creativity	Sex	N	Criterion[a] 1	2	3	4	5	6
7	High	M	3	3.00	5.33	2.33	3.33	1.33	3.33
		F	12	2.25	2.42	1.67	0.58	1.67	3.08
	Middle	M	12	2.00	2.52	2.00	2.50	1.75	1.83
		F	16	0.69	1.06	1.13	1.06	1.63	3.00
	Low	M	14	1.79	1.79	3.14	1.86	2.07	3.00
		F	1	0.00	0.00	0.00	0.00	0.00	0.00
8	High	M	13	5.54	4.69	5.62	5.69	3.69	3.85
		F	5	5.40	2.80	7.00	1.40	4.00	2.80
	Middle	M	19	2.00	2.58	3.32	3.53	2.58	2.17
		F	21	0.76	0.90	0.81	0.67	0.86	2.29
	Low	M	8	0.13	1.00	0.00	0.50	0.00	1.75
		F	10	1.30	0.80	0.90	0.00	0.90	1.50
9	High	M	5	9.80	7.80	3.20	4.80	2.40	1.80
		F	14	5.00	3.50	5.30	1.93	4.36	3.29
	Middle	M	20	0.55	1.25	0.55	1.55	0.35	2.00
		F	18	2.17	1.28	1.89	1.06	2.22	2.67
	Low	M	13	0.85	0.92	1.46	3.62	1.08	1.46
		F	6	0.17	1.50	0.83	1.00	0.17	2.32
10	High	M	13	6.69	6.38	5.00	7.85	4.85	3.62
		F	8	4.25	4.00	1.38	1.38	3.88	2.88
	Middle	M	11	0.82	1.00	2.55	1.73	2.73	2.27
		F	25	3.48	2.52	3.20	1.72	3.24	2.88
	Low	M	15	0.60	1.73	1.00	2.87	1.07	3.27
		F	6	0.00	0.17	0.00	0.00	0.33	2.50
11	High	M	6	3.17	2.83	4.00	2.50	4.50	2.50
		F	12	2.92	2.08	2.17	0.83	2.00	2.67
	Middle	M	18	2.56	2.50	2.17	2.39	2.11	2.22
		F	17	1.29	1.76	1.06	1.47	1.29	2.24
	Low	M	13	2.38	2.15	2.08	1.15	1.38	1.31
		F	5	4.60	3.00	3.40	2.80	5.00	1.40
12	High	M	7	8.00	4.86	10.57	9.57	12.00	3.14
		F	10	1.60	1.60	2.00	1.30	1.50	2.30
	Middle	M	16	4.75	5.56	2.75	3.50	2.19	3.06
		F	19	0.68	0.53	0.26	0.26	0.53	2.05
	Low	M	13	1.08	1.38	2.00	1.92	1.62	2.31
		F	4	0.00	0.00	1.00	0.50	0.50	1.25

[a] The six criteria stand, respectively, for 1) fluency, 2) originality, 3) flexibility, 4) inventiveness, 5) elaboration, and 6) friendship.

1. *Peer Nominations on Six Criteria*

Peer-nomination scores on each criterion were analyzed by two-way (sex and creativity) analysis of variance in each grade. Due to the unequal cell frequencies in this 2×3 classificatory scheme in each grade, an approximation called *the method of unweighted means* was used in the analysis.

a. Fluency. The null hypothesis states that highly creative adolescents, as a group, receive no more peer nominations as coming up with the "most ideas" than do the less creative adolescents.

The analysis of variance for which results are shown in Table 3 revealed no significant effects other than those of creativity in the eighth and ninth grades and sex effect in the twelfth grade. As a whole, then, the hypothesis on fluency cannot be rejected.

Failure for peer nominations to differentiate three groups (levels) of creative abilities on this criterion might be partially ascribed to the rather poorly defined words "most ideas." More definite specifications might have helped our subjects in crystallizing their choice.

b. Originality. The hypothesis postulates that highly creative adolescents, as a group, receive no more peer nominations as having the "most unusual or original ideas" than do the less creative adolescents.

The results of analysis (*cf.* Table 3) revealed significant creativity effects in the eighth, ninth, and tenth grades and significant sex effects in the twelfth grade. We cannot, then, convincingly conclude that the highly creative subjects receive more peer nominations on the "most original or unusual ideas" criterion than do the less creative subjects, but we can say that peer nominations on this criterion have greater differentiating power in terms of creative individuals than do those on the "most ideas" criterion. On the whole, there seem to be no sex effects.

c. Flexibility. The hypothesis is that highly creative adolescents, as a group, receive no more peer nominations as the "first to find a new way of meeting a problem" than do the less creative adolescents.

The analysis presented in Table 3 showed significant creativity effects in the eighth, ninth, and twelfth grades and significant sex effects in the twelfth grade. In the twelfth grade, the creativity effects stem from among the boys and not from among the girls. There was no significant difference in peer nominations received among the High-, Middle-, and Low-Creative girls at this grade level.

Again, the overall results were not conclusive. Nevertheless, it is rather revealing to note that the same tendency appeared on all three criteria considered thus far. In the eighth and ninth grades, the highly creative group

was constantly differentiated by the peer nominations from the less creative groups, while a clear sex difference was observed only in the twelfth grade. These results might not be mere artifacts of the specific subjects and instruments, but might represent an underlying developmental trend over these years.

TABLE 3
ANALYSES OF VARIANCE OF PEER-NOMINATION SCORES ON SIX CRITERIA

		Source of variation							
		Creativity		Sex		Interaction		Error	
Criterion	Grade	*df*	*MS*	*df*	*MS*	*df*	*MS*	*df*	*MS*
Fluency	7	2	1.611	1	2.470	2	0.136	52	2.430
	8	2	13.260**	1	0.007	2	0.728	70	1.452
	9	2	28.225**	1	2.483	2	5.290	70	3.662
	10	2	13.725	1	0.024	2	3.335	72	4.796
	11	2	1.301	1	0.082	2	1.610	65	3.223
	12	2	9.075	1	22.234*	2	3.556	63	3.838
Originality	7	2	4.795	1	5.782	2	0.381	52	2.530
	8	2	4.273*	1	2.369	2	0.424	70	1.002
	9	2	12.982**	1	2.269	2	3.572	70	1.738
	10	2	10.133*	1	0.976	2	2.114	72	2.324
	11	2	0.106	1	0.068	2	0.424	65	1.705
	12	2	4.011	1	15.585*	2	1.666	63	3.850
Flexibility	7	2	0.433	1	2.245	2	0.321	52	3.062
	8	2	18.323**	1	0.009	2	2.249	70	2.171
	9	2	6.399*	1	1.373	2	1.028	70	1.322
	10	2	4.528	1	3.032	2	2.116	72	2.643
	11	2	1.182	1	0.437	2	1.362	65	1.396
	12	2	15.228*	1	24.241*	2	8.041	63	4.116
Inventiveness	7	2	0.603	1	6.100*	2	0.224	52	1.043
	8	2	5.456*	1	9.754*	2	1.832	70	1.595
	9	2	2.122	1	5.960*	2	0.855	70	1.216
	10	2	6.183	1	14.570*	2	5.239	72	2.598
	11	2	0.056	1	0.147	2	0.437	65	0.822
	12	2	10.313*	1	27.864**	2	6.295	63	2.137
Elaboration	7	2	0.227	1	0.570	2	0.819	52	1.347
	8	2	5.885**	1	0.043	2	0.945	70	0.956
	9	2	4.138*	1	1.421	2	1.331	70	1.226
	10	2	6.853	1	0.240	2	0.317	72	2.775
	11	2	1.542	1	0.014	2	4.999*	65	1.440
	12	2	20.506**	1	29.393**	2	13.869*	63	3.906
Friendship	7	2	1.456	1	0.721	2	2.249	52	1.087
	8	2	1.485	1	0.232	2	0.179	70	0.527
	9	2	0.220	1	0.530	2	0.091	70	0.373
	10	2	0.228	1	0.135	2	0.311	72	0.376
	11	2	0.802	1	0.013	2	0.003	65	0.438
	12	2	0.504	1	1.411*	2	0.007	63	0.209

* $p < .05$.
** $p < .01$.

d. Inventiveness. The hypothesis states that highly creative adolescents, as a group, receive no more peer nominations as doing the "most inventing and developing of new ideas" than do the less creative adolescents.

The analysis (*cf.* Table 3) revealed significant creativity effects only in the eighth and twelfth grades. Sex effects, on the other hand, were significant in all grades except the eleventh.

The hypothesis on inventiveness, as it stands, cannot be rejected. The highly creative *boys* received more peer nominations than did the less creative boys in only two out of six grades, but, even in these two grades where significant creativity effects were observed, the highly creative girls received no more nominations than did the rest of the girls. On the other hand, there was a rather persistent sex difference in the peer nominations on this "most inventing and developing of new ideas" criterion in that boys received several times more nominations than did girls.

e. Elaboration. The hypothesis states that highly creative adolescents, as a group, receive no more peer nominations as "best at thinking of all of the details involved in working out a new idea and thinking of all of the consequences" than do the less creative adolescents.

The analysis presented in Table 3 showed creativity effects to have been significant only in the eighth and ninth grades. In addition, however, there were significant interaction effects (creativity $\times$ sex) in the eleventh and twelfth grades. In the eleventh grade, there were no significant main effects, while in the twelfth grade, both creativity and sex main effects were significant.

The interaction observed at the eleventh grade is interesting in that the patterns were reversed between boys and girls, as seen in Table 2. In other words, the *highly creative boys* and the *low-creative girls* both received significantly higher nominations (at the .05 level) on this criterion than did the rest of the groups. Apparently, then, this criterion is a useful one to sift out the high creatives among boys but not among girls at this grade level.

The picture changed again in the twelfth grade, as seen in Table 2. Here, only highly creative boys were significantly different (at the .05 level) from the rest of the means, which are not significantly different from each other. In this grade, obviously, this criterion was a very effective one by which to differentiate the highly creative boys, for they received more than 10 times as many peer nominations as did other groups.

As a whole, then, we cannot draw a clear-cut conclusion from our results either to accept or to reject this hypothesis on elaboration. It seems that there was a certain difference between those in the junior-high level and those in the senior-high level. In the lower grades, peer nominations separated those high on creativity from the rest of the group on all five criteria considered so far. In the upper grades, however, a clear sex difference seems to have

emerged as the criteria served to differentiate the highly creative *boys,* but not the girls.

f. Best friends. The hypothesis states that creativity, *per se,* does not play a decisive role in the choice of best friends. In other words, the highly creative adolescents, as a group, receive no more peer nominations as the "best friends" than do the less creative adolescents.

The results of the analysis (*cf.* Table 3) revealed no significant creativity effects in any grade. Sex effects were significant only in the twelfth grade. Thus, the hypothesis cannot be rejected.

In the twelfth grade, where the persistent sex difference was observed again, boys received one-and-a-half times as many "best friends" nominations as did girls. This tendency might be partially explained by the differential maturation rates in the heterosexual interests among boys and girls. Girls might show more interest in the opposite sex than do boys, while the latter are still pretty much controlled by the same-sex peer-relation pattern.

This result cannot be explained by the artifact that the subjects were asked to restrict their choices to their own grade level. Such an explanation was used by Kuhlen and Lee (6) in their study of 700 children in grades six, nine, and twelve. They found that the boys choose the opposite sex more frequently as their best friends and proposed that this tendency be explained by the restriction stated above. According to them, "since girls tend to prefer older associates, while boys prefer associates of their own ages, the girls may have chosen boys less frequently under the conditions of this study than would have been the case if they had unrestricted choice." Our findings are quite contrary to theirs and the explanation presented is also different. Naturally, such differences could be a result of the different subjects used in these two studies.

2. *Best Friends of Highly Creative Adolescents*

The last two hypotheses dealt with friendship patterns of highly creative adolescents in terms of both creativity level and sex of their "best friends." These hypotheses were tested by three-way chi-square analysis (7,8) in each grade. In examining nominees' creativity level as the possible determinant of friendship patterns, the three dimensions employed were sex of nominator, creativity level of nominator (only the High and Low Groups are used to obtain a clear contrast), and creativity level of nominee (High, Middle, and Low). In examining nominees' sex as the possible determinant, the three dimensions used were sex of nominator, creativity level of nominator (High and Low), and sex of nominee.

a. Creativity as a factor. The hypothesis postulates that, when compared

with less creative adolescents, there is no tendency for highly creative adolescents to choose their "best friends" more from among the highly creative adolescents than from among the less creative ones.

In testing this hypothesis, we were, in fact, interested in two subhypotheses. The first of these is that, regardless of one's sex, there is no effect of creativity on one's choice of best friends. The test results of this subhypothesis revealed that it should be accepted in all grades except one (see Table 4). Therefore, we conclude that, in male and in female, there is no effect of

TABLE 4
CHI-SQUARE ANALYSES OF PEER-NOMINATION SCORES ON FRIENDSHIP CRITERION

Nominee factor	Nominator factor	Grade	*df*	Chi square
Creativity	Creativity	7	4	5.440
		8	4	5.142
		9	4	2.085
		10	4	9.942*
		11	4	5.181
		12	4	2.137
	Sex	7	4	16.571**
		8	4	6.262
		9	4	13.042*
		10	4	13.193*
		11	4	2.055
		12	4	4.205
Sex	Creativity	7	2	0.607
		8	2	3.564
		9	2	2.338
		10	2	8.804*
		11	2	5.770
		12	2	1.783
	Sex	7	2	58.388***
		8	2	56.437***
		9	2	81.623***
		10	2	82.733***
		11	2	35.129***
		12	2	44.644***

* $p < .05$.
** $p < .01$.
*** $p < .001$.

creativity on the choice of best friends. Only in the tenth grade, where the high creatives chose the high creatives more often than expected and the low creatives chose the low creatives more often than expected, was the anticipated pattern of choices observed.

The second subhypothesis is that, at any creativity level, there is no sex effect upon one's choice of best friends. The test results (Table 4) showed

that, in three out of six grades, significant sex effects were present. The three grades were seventh, ninth, and tenth. A further comparison between the expected and the observed frequencies revealed that, regardless of their creativity level, girls tended to choose their best friends from among the low-creative group less often than expected in all these three grades. This tendency was reversed among boys.

The overall picture suggests that the major determinant in the choice of best friends in terms of creativity level of the nominees is not the nominators' creativity level as first suspected but, rather, their sex. Highly creative adolescents seem to be more popular among girls than among boys.

b. Sex as a factor. The last hypothesis states that, when compared with less creative adolescents, highly creative adolescents have no tendency to give more "best friends" nominations to members of the opposite sex than to those of the same sex.

Here again, we are testing two subhypotheses subsumed under one hypothesis. The first is that, in either sex, there is no effect of creativity level on one's choice of best friends from among the two sexes. This subhypothesis was accepted in all grades but one (*cf.* Table 4). Neither among boys nor among girls did the level of creativity make a difference in the choice of boys or girls as best friends. Only in the tenth grade, where the high creatives chose the opposite sex more often than expected and the low creatives chose the opposite sex less often than expected, was the anticipated pattern of choice observed.

The second subhypothesis is that, at any creativity level, there is no sex effect upon the choice of best friends in terms of the sex chosen. This subhypothesis was rejected in all grades without exception. There were sex effects, certainly, but a comparison between the expected and the observed frequencies revealed the familiar fact that, regardless of the creativity level of the subjects, there is a decided tendency for boys to choose boys and girls to choose girls.

Quite possibly, high-school years are not the optimum period in which to test hypotheses about heterosexual implications of creative ability. The well-known and well-established peer culture seems to offset any existing relations between creativity and sex roles.

D. Discussion

The use of a laboratory school population in this study naturally limits the possibility of generalization of the findings, and the analysis-of-variance technique based upon the arbitrary trichotomization of the population in-

vites some technical discussion. In addition, some cell frequencies were extremely small and make the results unreliable.

If, in spite of all these and other limitations, we may venture to present some speculations on sociometric discrimination among adolescents in terms of their creative-thinking abilities, there would seem to be a certain transitional trend and, hence, a marked change in the picture between the junior-high and the senior-high levels, at least in this particular population of adolescents. This transition might be explained by changes in interpersonal or social perception during the high-school years, or it might be explained by a transition from psychological criteria to social criteria in judging creativity and by increasing sex-typing during this period.

Wilson (10, pp. 110-111), in discussing creativity, differentiated two criteria being used to judge creativity among children and adults. To quote him:

> Creativity in adults is usually evaluated in terms of a social criterion. The evaluation of the newness is usually based on the alternative of new to our society or at least new to the group doing the evaluation. In evaluating creativity in children it is more customary to adopt a psychological criterion in which major emphasis is placed on the newness of an idea or object to the individual who produced it. In making a deliberate effort to develop creativity in children it is generally *assumed* that activities which promote self-expression or doing things which have not been done before are likely to produce adults who will be regarded as creative.

If we assume that our instruments worked validly and reliably and also that our cross-sectional findings approximate to the longitudinal process, the trend might be explained as follows.

In the seventh grade, students are not well enough acquainted with each other yet to allow any dependable judgment on creativity and the related traits. In the eighth and ninth grades, students know and understand each other well enough and their "psychological criterion" differentiates those high on creativity from those low on creativity by sociometric nominations on the criteria employed. In other words, the subjects' evaluative set is still on the individual basis at this stage, and "creative persons" are identified with those who come up with the most ideas, who have the most original or unusual ideas, and so forth. The ideas are original not to the group but to the individual, and creative people are judged in terms of their impact upon the evaluator and not in terms of their ability on the "social" criterion.

The picture changes as our subjects advance in grade. More and more weight is placed on the "social" evaluation of creativity, and one cannot be called creative merely because one has a lot of unusual ideas or because one

can think of all the details and consequences of a new idea. Something else should be added to the old psychological, individual criterion.

In addition to the transition between the two evaluative sets, the role of cultural sex typing should be taken into consideration. All through high-school years, the process of sex typing continues and adequate sex roles are apparently established by the twelfth grade. In the lower grades, sex typing is still in its final stages before completion and the prototype of so-called creativity and its relevant traits are not yet the sole possession of the boys. However, as the subjects proceed to the senior-high level, sex roles are well defined and established, and, as the result, those traits which have characterized highly creative people thus far become adequate only for boys. The same characteristics which differentiated highly creative boys and girls at the junior-high level from the rest of their class do not work for girls any more. Girls are expected to and do behave as quiet, friendly, conforming ladies as defined by our culture. Therefore, those criteria which we used in our sociometric test are suitable for differentiating creative boys but not creative girls. In other words, our present instruments might not be adequate to measure creativity among girls. Whether girls really lose in their creative abilities, or whether it is a matter of our definition, is not known.

References

1. Bonney, M. E. Personality traits of socially successful and socially unsuccessful children. *J. Educ. Psychol.*, 1943, **34**, 449-472.
2. ———. A sociometric study of the relationships of some factors to mutual friendships on the elementary, secondary, and college levels. *Sociometry*, 1946, **9**, 21-47.
3. Bonney, M. E., & Powell, J. Differences in social behavior between sociometrically high and sociometrically low children. *J. Educ. Res.* 1953, **46**, 481-495.
4. Davitz, J. R. Social perception and sociometric choice of children. *J. Abn. & Soc. Psychol.*, 1955, **50**, 173-176.
5. Getzels, J. W., & Jackson, P. W. Creativity and Intelligence. New York: Wiley, 1962. Pp. 293.
6. Kuhlen, R., & Lee, B. Personality characteristics and social acceptability in adolescence. *J. Educ. Psychol.*, 1943, **34**, 321-340.
7. Roy, S. N. Some Aspects of Multivariate Analysis. New York: Wiley, 1958. Pp. 214.
8. Roy, S. N., & Mitra, S. K. An introduction to some non-parametric generalizations of analysis of variance and multivariate analysis. *Biometrika*, 1956, **43**, 361-376.
9. Torrance, E. P. Guiding Creative Talent. Englewood Cliffs, N.J.: Prentice Hall, 1962, Pp. 278.
10. Wilson, R. C. Creativity. In N. B. Henry (Ed.), *Education for the Gifted. Yearb. Nat. Soc. Stud. Educ.*, 1958, **57** (2), 108-126.
11. Wurtz, C. R. A study of the relationship of leadership status of elementary school children to their social interaction in classroom and experimental situations. *Diss. Abst.*, 1956, **16**, 2542-2543.

12. YOUNG, L. L., & COOPER, D. H. Some factors associated with popularity. *J. Educ. Psychol.*, 1944, **35**, 513-535.

College of Education
Kent State University
Kent, Ohio

The Journal of Social Psychology, 1964, 64, 263-273.

KNOWLEDGE, EXPOSURE, AND PERSONAL CHARACTERISTICS*

University of Missouri at Kansas City and University of Missouri

MORTON GOLDMAN, LEON H. WARSHAY,[1] AND ELLEN H. BIDDLE

A. INTRODUCTION

In a society where education is widespread and the mass media pervasive, a common minimal fund of information is available to all. This article, using some of the data of a larger study,[2] examines the knowledge of 13 established groups and aggregates and attempts to account for variation in this knowledge.

Research in social psychology has indicated that knowledge is related to a number of variables. One of them is differential contact with information. Moreover, this contact has been shown to be affected by such personal variables as autistic needs, frame of reference, value, attitude, and self-interest; important studies in this area have been reviewed by Bruner (2), Bruner and Tagiuri (3), and Scheerer (4). The relation between differential contact with information, the personal variables, and knowledge may be posited as follows: Having certain needs, values, self-interest, and the like, one tends to be alerted to or to seek certain kinds of information and is likely to retain much of it. Retention of this information might then further influence one's frame of reference, values, needs, etc. Therefore, until the intrusion into this cycle of additional factors, one would expect continual interaction between contact with information and the above psychological variables in influencing the acquisition and retention of knowledge.

The major focus of this study will be to examine (*a*) whether the 13 groups and aggregates—the groups differing from one another with respect to age, education, class, religion, and minority-group membership—do indeed differ in commonly available knowledge; and (*b*) if differences do exist to attempt to account for them in terms of contact with information and with the above psychological variables. Thus, differential contact with information

* Received in the Editorial Office on April 2, 1963. Copyright, 1964, by The Journal Press.

[1] Now at The Ohio State University.

[2] This study grew out of work undertaken to examine the reactions of the Kansas City community to the bombing of a synagogue and the desecration of several additional Jewish buildings in the city early in 1960, allegedly by a neo-Nazi group of 11 high-school students. The larger study is, as yet, unpublished.

and the above personal factors will be seen as variables intervening between group membership and knowledge.

B. Method

1. Subjects

Subjects (*Ss*) for the study consisted of 13 samples, varying in size from 21 to 90, selected to represent a variety of background characteristics. Two of the samples were seen as being "close" to the bombed congregation:

1. Jewish Adults (JA): The husbands' and wives' organization of the bombed synagogue, 63 in all.
2. Jewish Youth (JY): Two teen-age clubs—one from the bombed synagogue, the other from another synagogue in town—51 and 43 in all, respectively.

Two other samples were seen as "closer" to the "Neo-Nazi" adolescents:

3. Neighbors of Neo-Nazi Students (NEIG): A sample of 90 neighbors of the above-mentioned 11 adolescents.
4. East and Southeast High Schools (E & SE HS): A sample each from the two high schools which the 11 adolescents attended, 31 from the first, 33 from the second.

The nine remaining samples can be seen as having varying degrees of identification with the bombed congregation and the "neo-Nazi" adolescents. In addition, they fulfill the purpose of varying in a number of background characteristics:

5. Central High School (CEN HS): A mixed sample of 38 Negro and white students.
6. Manual High School (M HS): A sample consisting almost completely of Negroes, 41 in all.
7. Southwest High School (SW HS). A solidly middle-class sample of white students, 37 in all.
8. Private Girls' High School (PG HS): A sample of 29 girls from an upper-middle-class private school.
9. Catholic High School (CAT HS): A sample of 36 students from a middle-class Catholic high school.
10. Catholic College (CAT C): A sample of 21 male students of a Catholic college.
11. College Physical Science Class (C PS): A sample of 38 students of a physical science class in a private secular college.
12. College Human Relations Workshop (C HR): A sample of 79 students at a special human-relations workshop at a private secular college, most of them teachers and school administrators.
13. Baptist Congregation (B): A sample of 26 members of a lower-middle-class Baptist congregation.

Every sample but one was gathered at one sitting. The samples represent actual ongoing groups, such as clubs, organizations, congregations, and school classes. The one exception is Sample 3 above (Neighbors of Neo-Nazi Students), members of this sample having been interviewed at home. Further, Sample 2 (Jewish Youth) and Sample 4 (East and Southeast High Schools) each consisted of two groups which were then combined for the analysis.

2. *The Measurement of Knowledge*

The instrument measuring knowledge consisted of multiple-choice items assessing information in the following three areas: current events, World War II, and Nazism. The questions designed to measure the *S*'s knowledge of current events asked relatively simple questions of fact: to name the U.S. vice-president, the secretary of state, the form of government of mainland China, the size of Kansas City, Missouri City Council, and the size of the U. S. Senate. The questions designed to measure knowledge of World War II asked the *S* to identify the nations making up the Axis, four events of the War, and the name of the U. S. president at the beginning of the war. The questions relevant to knowledge of Nazism asked the *S* to name three Nazi characteristics, three Nazi leaders, and the country in which Nazism orginated. All the above information has been available frequently in the mass media.

In scoring the measure a simple additive method was selected, the *S* receiving one point for each correct choice. For each of the three areas, correct answers were added, an *S* therefore receiving three knowledge scores; i.e., one each for current events, for World War II, and for Nazism. For each of the 13 samples, a mean score across *S*s was obtained for each of the three knowledge areas. The highest possible score an *S* could receive for the three areas was five points for current events, eight for World War II, and seven for Nazism.

C. Results

The mean scores for each of the 13 samples for the three areas of knowledge are presented in Table 1.

In general, all samples (with the exception of the Jewish Adults' knowledge of Nazism) ranged between 50 per cent and 80 per cent of the items correct in the three areas of knowledge; more especially, the range was 50 per cent to 75 per cent for current events, 65 per cent to 85 per cent for World War II, and 45 per cent to 80 per cent for Nazism.

Table 2 compares the means of the 13 samples on Current Events and shows which comparisons were significant. It was not feasible to run compari-

TABLE 1
MEAN SCORES OBTAINED BY 13 SAMPLES IN THE THREE KNOWLEDGE AREAS

	JY	JA	B	CAT C	CAT HS	PG HS	C HR	C PS	NEIG	E & SE HS	SW HS	M HS	CEN HS
Current events	3.43	3.41	2.64	3.43	2.47	3.34	3.27	3.05	2.64	2.95	3.24	2.58	2.90
World War II	5.65	6.67	5.77	6.81	6.08	6.20	6.50	5.79	5.53	5.33	5.78	5.24	5.82
Nazism	4.29	6.22	5.46	5.62	3.25	4.76	5.32	4.24	4.22	3.84	3.81	3.20	3.92

TABLE 2

COMPARISON OF MEANS OBTAINED BY 13 SAMPLES ON KNOWLEDGE OF CURRENT EVENTS

	JY	JA	B	CAT C	CAT HS	PG HS	C HR	C PS	NEIG	E & SE HS	SW HS	M HS	CEN HS
JY													
JA	—												
B		—***											
CAT C		—	—**										
CAT HS	—***			—***									
PG HS	—				—***								
C HR		—	—**	—									
C PS		—	—	—		—	—						
NEIG		—***	—	—***			—***	—					
E & SE HS	—*				—*	—	—	—	—*				
SW HS	—				—***	—	—	—		—			
M HS	—***				—	—***	—***			—	—*		
CEN HS	—*				—	—	—			—	—	—	

Note: A dash indicates that a comparison was made.

* Significant at .05 level.

** Significant at .01 level.

*** Significant at .001 level.

sons between all the means but only between those deemed of analytical relevance. The dashes in the table indicate which comparisons were made.

Specifically, the results, as presented in Table 2, show:

1. The college samples, with the exception of the College Physical Science Class, were significantly higher[3] than samples with less education.

2. The two Jewish samples were significantly higher than other samples of comparable age and background.

3. The Catholic College sample was significantly higher than the Catholic High School sample.

4. The Private Girls' High Schol and Jewish Youth samples were significantly higher, and the Catholic and Manual (Negro) High School samples significantly lower, than most of the remaining youth samples.

5. East and Southeast High Schools, from whence came the students alledgedly involved in the neo-Nazi activity, were significantly higher than the Neighbors of Neo-Nazi Students.

Table 3 presents the results comparing the 13 samples on knowledge about World War II. The following relations appear:

1. The college samples did well, with the exception of the College Physical Science Class, which responded at about an average level.

2. The youth samples, in general, did more poorly than adults of comparable background, with the exception of East and Southeast High Schools *vis-à-vis* Neighbors of Neo-Nazi Students, between which no significant difference was observed.

3. The Catholic College sample was significantly higher than the Catholic High School sample.

4. Manual (Negro) High School did more poorly than Private Girls' and Catholic High Schools, but not significantly different from the public high-school samples.

Table 4 compares the 13 samples on knowledge of Nazism. The results follow:

1. The College samples, with the exception of the relatively mediocre performance of the College Physical Science Class, did well.

2. With the exception of the Neighbors of Neo-Nazi Students sample, adult samples did better than youths of comparable background.

3. The Jewish samples, on the whole, did well—especially the Jewish Adults sample, which was significantly higher than all other samples.

---

[3] All references to high or low comparisons are at the .05 level of significance, two-tailed, unless otherwise indicated.

TABLE 3
COMPARISON OF MEANS OBTAINED BY 13 SAMPLES ON KNOWLEDGE OF WORLD WAR II

	JY	JA	B	CAT C	CAT HS	PG HS	C HR	C PS	NEIG	E & SE HS	SW HS	M HS	CEN HS
JY													
JA	—***												
B		—											
CAT C		—	—										
CAT HS	—			—*									
PG HS	—				—								
C HS		—	—	—									
C PS		—*	—	—*		—	—						
NEIG		—***	—	—***			—***	—					
E & SE HS	—				—	—*	—***	—	—				
SW HS	—				—	—	—*	—		—			
M HS	—				—*	—*	—***			—	—		
CEN HS	—				—	—	—			—	—	—	

Note: A dash indicates that a comparison was made.
* Significant at .05 level.
** Significant at .01 level.
*** Significant at .001 level.

TABLE 4
COMPARISON OF MEANS OBTAINED BY 13 SAMPLES ON KNOWLEDGE OF NAZISM

	JY	JA	B	CAT C	CAT HS	PG HS	C HR	C PS	NEIG	E & SE HS	SW HS	M HS	CEN HS
JY													
JA	—***												
B		—**											
CAT C		—**	—										
CAT HS	—***			—***									
PG HS	—				—***								
C HR		—***	—	—									
C PS		—***	—*	—**		—	—**						
NEIG		—***	—**	—***			—***	—					
E & SE HS	—				—*	—*	—***	—	—				
SW HS	—				—	—*	—***	—		—			
M HS	—***				—	—***	—***			—*	—		
CEN HS	—				—	—*	—***			—	—	—	

Note: A dash indicates that a comparison was made.
* Significant at .05 level.
** Significant at .01 level.
*** Significant at .001 level.

4. The Baptist Adults and Neighbors of Neo-Nazi Students finished significantly lower than other adult samples.

5. The Private Girls' High School sample did significantly better, and Manual (Negro) High School significantly more poorly, than most other youth samples. The Jewish Youth sample, on the other hand, was significantly higher than only Manual and Catholic High Schools.

Summarizing the results obtained by our 13 samples in the three areas of knowledge, we can state the following:

While no attempt was made to balance the three areas for difficulty, to the extent that the three test areas were equivalent in difficulty, the knowledge demonstrated in these three areas by the samples tested appears comparable. Roughly 65 per cent of the questions asked were answered correctly, with somewhat greater knowledge shown of World War II.

Education seemed very important, for the college samples (with the exception of the College Physical Science Class) tended to do better than samples with less education. Age also appeared to play a part, with the sample containing older *Ss* doing better than the sample consisting of younger *Ss*. This was particularly the case in the areas dealing with World War II and Nazism. However, the one important and consistent exception where age did not imply better knowledge occurred in comparing the Neighbors of the Neo-Nazi Students to the East and Southeast High Schools. Among the adult samples, the Jewish group tended to be at the top. Of the youth samples, the Private Girls' High School and the Jewish Youth tended to score high and the Catholic and Manual (Negro) High Schools tended to score low.

D. Discussion

How can we account for the obtained results? Certainly, the factor of greater exposure appears to explain the fact that (*a*) college samples generally did better than the noncollege and (*b*) adults generally did better than youths with reference to knowledge of World War II and of Nazism—areas that were most salient before the youths were born. A second factor, quality of training, appears relevant in that the general superiority of the Private Girls' High School and inferiority of the Manual (Negro) High School sample may imply the differential level of training of the two schools.

However, the above formulation leaves out the actor—i.e., his needs, attitudes, and the like, without which no amount of exposure and no quality of training would be relevant. For example, the college samples not only have been exposed to more information than the noncollege, but may also be presumed to bring to such information a more full and complex frame of refer-

ence.[4] Similarly, the greater cosmopolitanism of the Private Girls' High School and the Jewish samples would seem to be involved, especially as contrasted with that of the Manual (Negro) and the Catholic High School samples.

The role of personal variables may be seen, further, in the superior Jewish Adult knowledge of Nazism (51 per cent having gotten a perfect score and an additional 35 per cent acquiring six of seven possible points) and the generally poor score of the Manual (Negro) sample. The former may be explained by feelings of anxiety, self-interest, and identification with the events and the implications of the Nazi era; the latter, by the lesser concern that Negroes have for problems outside of their more immediate troubles and by their general feeling that nothing will be done about the above in any case. Support for the latter was given in a paper by Warshay, Goldman, and Biddle (5) which examined both F-scale and Anomie scores of the same sample; the Manual (Negro) sample was high on both scales. It was also found in the above article that the Neighbors of the Neo-Nazi Students had high Anomie scores, suggesting that the lack of knowledge of the Neighbors in the present study, similarly to the Manual sample, could be due to their detachment and unconcern with events outside their immediate world.

The superior score of the Catholic College sample and the generally low score obtained by the Catholic High School sample seem, on the one hand, to point to the parochialism and insularity of the general Catholic population and, on the other, to the superior breadth of the Catholic student who seeks and obtains higher education.

The relation of exposure to the above personal variables may be seen from a negative vantage point in the case of the Jewish Youth; i.e., in their lack of superiority to most other youth groups in knowledge of Nazism. This may be accounted for in the reluctance of the parents of the Jewish Youth to discuss anti-Semitism with them.[5]

In conclusion, there appears to be supporting evidence to show that exposure and training are not sufficient in themselves to account for the retention of knowledge. Personal factors, such as frame of reference, need, value, self-interest, and attitude, are needed to help explain the direction and frequency of such contact as well as its efficacy.

---

[4] That cognitive complexity enables a more accurate as well as a more subtle perception of others has been shown, for example, by Bieri (1).

[5] There is evidence that this is the case in Kansas City. For example, at one of the local Hebrew schools, 27 out of a possible 30 parents called to protest against class discussion of anti-Semitism.

E. Summary

This study examines the results of the performance of 13 samples, differing on a variety of background characteristics, in three different knowledge areas: current events, World War II, and Nazism.

In accounting for the differential knowledge, the investigators relied not only on variation in exposure to information and training but also on personal variables, such as frame of reference, need, value, self-interest, and attitude. Thus, the study presents the picture of continual interaction between contact with information and personal factors in influencing the acquisition and retention of knowledge.

References

1. Bieri, J. Cognitive complexity-simplicity and predictive behavior. *J. Abn. & Soc. Psychol.*, 1955, **51**, 263-268.
2. Bruner, J. S. Social psychology and perception. In E. E. Maccoby, T. M. Newcomb, & E. L. Hartley (Eds.), *Readings in Social Psychology (3rd ed.)* New York: Holt, 1958. Pp. 85-94.
3. Bruner, J. S., & Tagiuri, R. The perception of people. In G. Linzey (Ed.), *Handbook of Social Psychology (Vol. 2)*. Cambridge, Mass.: Addison-Wesley, 1954.
4. Scheerer, M. Cognitive theory. In G. Linzey (Ed.), *Handbook of Social Psychology (Vol. 1)*. Cambridge, Mass.: Addison-Wesley, 1954.
5. Warshay, L. H., Goldman, M., & Biddle, E. H. Anomie and F scales as related to social characteristics. *J. Soc. Psychol.*, 1964, **62**, 117-123.

Department of Psychology
University of Missouri at Kansas City
Kansas City 10, Missouri

The Journal of Social Psychology, 1964, **64**, 275-285.

EMOTIONAL CONTROL AS A FACTOR IN PRODUCTIVITY OF SMALL INTERACTION GROUPS*

Department of Educational Psychology, University of Wisconson

ROBERT D. BOYD

A. INTRODUCTION

The object of the present study is to ascertain whether emotional-control styles affect productivity. Specifically the principal aim of this study is to determine whether four groups of children, formed according to three types of emotional-control styles, differ in amount gained in selected aspects of arithmetic.

The concept of emotional control was first used by Glidewell (3). He defined it as that force which an individual or a group applies in a situation in order to resolve or delimit the conflict (stress) between the demands of the task and the interpersonal emotional relationships that divert the energies and attention of the group members away from completing the demands of the task. Three types of emotional control have been defined: labile, constrictive, and integrative. Labile emotional control is defined briefly as an undisciplined acting out of emotions in work situations. Constrictive emotional control inhibits the direct acting out of emotions in work situations. Integrative emotional control attempts to integrate the acting out of emotions within the work demands of the situation.

The threoretical framework that Glidewell employed was suggested initially by W. R. Bion (2). In his work with therapy groups, Bion observed that interaction within a group operated in terms of a series of characteristic emotionalized urges. In order to accomplish work, these emotionalized urges must be controlled and channeled. Subsequent studies by Thelen and associates (4) materially advanced operational and theoretical knowledge of the emotional and work aspects of groups. It was within this context and association that Glidewell conducted his study.

In his study Glidewell randomly assigned 468 cadet Air Force officers to 36 classroom groups. Each group contained 13 members and an instructor. Glidewell gave each group four hypothetical problems involving a situation in which the behavior of an Air Force officer violated an ethical standard.

* Received in the Editorial Office on April 5, 1963. Copyright, 1964, by The Journal Press.

Each group was given two hours to discuss the four problems and write a solution to each. Every group member completed a questionnaire and a sentence-completion test designed to assess the emotional control of the group. Group productivity was rated on 16 factors.

Glidewell found integrative groups to have a wider range of ideas, more specific solutions, more attention to causation, and more involvement and commitment to their proposed solution than did the groups using the other two types of control. Constrictive groups showed a moderate range of ideas, specific solutions within a rigid organization, much attention to causation, but little involvement in and commitment to their solutions. The labile group showed a narrow range of ideas, overgeneralized solutions, little attention to causation, and—in spite of a fairly strong emotional involvement—an avoidance of responsibility.

B. Purpose

In view of the possibility that the findings from Glidewell's study may provide significant insights for classroom management, it seems desirable to investigate whether the different types of emotional control are associated with different degrees of achievement of subgroups in elementary classes. The problem may be stated in the following manner: If groups are formed, each being composed of members observed to have a preference for one type of emotional control, what predictions can be made about their achievement?

Glidewell collected his data on group pre- and postmeeting instruments and not on group interaction-process instruments. It is anticipated that data on the interaction processes of the groups could contribute to an understanding of the interchild behaviors as they may be involved in possible variances in group achievement. If in fact such evidence is found, a second question is suggested: What are the interchild behaviors associated with high or low achievement?

C. Method

1. *Subjects*

The subjects for this study were enrolled in a fourth-grade class. The class had a total class membership of 26 children: 12 boys and 14 girls. Prior to the experimental sessions, every child had been administered standardized reading and arithmetic tests and the Wechsler Intelligence Scale for Children. The investigator had classified each child on a social class scale and had registered each child's chronological age. Thus, five types of information were available for describing each child and also the experimental subgroups which were formed.

2. *Formation of Groups*

Three judges were trained to use the classification system of the three types of emotional-control styles on observed behaviors of children. Following the training period, the judges independently observed and classified the 26 children into one of three emotional-control styles. The experimental groups were formed by putting those children who had been observed to have a similar emotional-control style together in a group. Thus, a labile group was composed of six children who were observed to be characterized by an undisciplined acting out of emotions in work situations. A constrictive group was composed of six children who were observed to be characterized by inhibiting the direct acting out of emotions in work situations. An integrative group was composed of six children who were observed to be characterized by attempting to integrate the acting out of emotions within the work demands of the situation. A fourth group, designated mixed, was composed of eight children whose emotional-control style could not be agreed upon by all the judges.

3. *Experimental Situation and Data-Gathering Devices*

Each group met on five different occasions for an allotted period of 15 minutes. On each occasion a different arithmetic problem was given to the group to solve cooperatively. Trained observers recorded the interactions within the groups by means of the Bales Interaction recorder (1). Prior to and following each meeting, pre- and posttests in arithmetic were administered. Gain in achievement was measured by gains made from pre- to posttests for each experimental session. A Postmeeting-Reaction form (PMR) and a satisfaction scale were administered after each meeting to each child.

The PMR consisted of 12 statements of behaviors which often occur in small groups. Four of the statements described labile behavior; another four described constrictive behavior. Each student was to rate the frequency of each behavior on a five-point scale from "not occurring" to "occurring throughout the meeting."

The Satisfaction scale consisted of four statements describing feelings of satisfaction ranging from "a terrible meeting" to "a good meeting." The student was to indicate his feeling of satisfaction by marking one of the four choices.

D. Findings

1. *Achievement*

Although there were noticeably large differences among the group mean gains for the five sessions as shown in Table, the analysis of variance did not

show these differences to be significant at the accepted level of .05. However, it was noted that there were four distinct achievement patterns among the group sessions. The four achievement patterns were (*a*) those sessions, designated by the symbol (—,—), in which gains on the arithmetic test were less than the mean gains for all groups, and status on the pretest was less than the

TABLE 1
GAIN SCORES FOR THE FOUR GROUPS OVER THE FIVE ARITHMETIC SESSION TESTS

Sessions	Group means				
	Labile	Integrative	Mixed	Constrictive	Mean
1st	— 2.4	7.3	12.2	14.9	7.5
2nd	— 5.7	16.7	28.9	39.5	19.85
3rd	35.4	3.5	—11.5	20.9	12.07
4th	8.3	31.5	19.8	— .9	12.18
5th	6.2	— 8.1	27.7	12.3	9.78
Total	41.8	50.9	77.1	86.7	
Mean	8.36	10.18	15.42	17.34	

mean status for all groups; (*b*) those sessions, designated by the symbol (—,+), in which gains on the arithmetic test were less than gains for all groups, and status on the pretest was above the mean status for all groups; (*c*) those sessions, designated by the symbol (+,+), in which gains on the arithmetic test were above the mean gains for all groups, and status on the pretest was above the mean status for all groups; and (*d*) those sessions,

TABLE 2
ACHIEVEMENT SCORES OF 16 SESSIONS ARRANGED ACCORDING TO THEIR PARTICULAR ACHIEVEMENT PATTERN

	Achievement patterns			
	Gains (—) and pretest (—) Group L	Gains (—) and pretest (+) Group I	Gains (+) and pretest (+) Group M	Gains (+) and pretest (—) Group C
Gain	— 2.4	7.3	12.2	14.9
scores	— 5.7	16.7	28.9	39.5
per	8.3	3.5	19.8	20.9
session	6.2	— 8.1	27.7	12.3
Total	6.4	19.4	88.6	87.6
Mean	1.6	4.9	22.2	31.9

designated by the symbol (+,—), in which gains on the arithmetic test were above the mean gains for all groups, and status on the pretest was less than the mean status for all groups.

When the 20 sessions were classified under each of these four achievement patterns, presented in Table 2, it was found that one of the emotional-control

groups contributed four of the five sessions under a given achievement pattern. This finding suggested the possibility of comparing the arithmetic achievement of the four sessions of the emotional-control group exhibiting a given achievement pattern with the four sessions of each of the other emotional-control groups exhibiting their characteristic achievement patterns. Such comparisons were made and are reported in Table 3, in each case disregarding the one out of five sessions that did not conform to a given achievement pattern. The results of these comparisons showed that there were significant differences in achievement among the sessions' different achievement patterns. The mean achievement of the sessions exhibiting the achievement patterns designated by the symbols (+,—) and (+,+) was significantly greater than that of the sessions exhibiting the achievement patterns designated by the symbols (—,—) and (—,+).

Since the four sessions exhibiting the achievement pattern (+,—) were all sessions of the constrictive group, and the four sessions exhibiting the achievement pattern (+,+) were all sessions of the "mixed" group, there seems to be some reason for believing that the composition of the groups was in some way operating to affect their achievement.

With this finding in mind, the investigator analyzed the data obtained from the interaction analysis and the PMR to see whether such analyses would help to explain the above findings. In these analyses, when a group is identified by its emotional-control designation (labile, integrative, constrictive, mixed), it should be understood that the reference is to the four sessions of the particular group that exhibits a common achievement pattern.

2. *Interaction and Perception Results*

The IPA categories may be related or combined in a number of ways as well as treated individually. Initially the data were organized into categories which were examined individually. Indices of certain paired categories were constructed to describe interaction within the groups. Indices of the intragroup behaviors analyzed the distribution of behaviors within each group. The significant results presented in Table 3 are summarized in the following paragraphs.

1. Group C had a significantly greater number of acts than all other groups. Group I had a greater number of acts than group M and M had more than L. The difference was not significant among these groups.

2. Group C had a significantly greater number of acts per minute than all other groups. Group M also had significantly more acts per minute than

TABLE 3
SUMMARY OF SIGNIFICANT RESULTS FOR THE FOUR SETS OF GROUPS ON INTERCHILD BEHAVIORS AND PMR ITEMS

Variables	Group order				Mean							
Total number of acts	C	I	M	L	276	>	223		185		178	
Acts per minute	C	M	I	L	19.81	>	17.36	>	14.59		14.38	
Shows tension release (category 2)	L	I	C	M	10.5		10.2	>	3.1		2.6	
Positive social-emotional behaviors (total of categories 1, 2, 3)	L	I	M	C	22.3	>	(19.8)		18.3		17.8	
Problems of communication	C	I	M	L	.24		.20		(.17)		.08	
Problems of evaluation	I	L	M	C	.20	>	.11		.09		.07	
Problems of tension reduction	C	M	I	L	.99		.93	>	.70		.61	
Problems of reintegration	C	I	L	M	.72	>	(.58)		.46	>	.40	
Expressive malintegrative behaviors	C	M	I	L	.75	>	.64		.64		.53	
Item 10 on PMR: perceive shift in leadership	C	I	M	L	19.0		17.8	>	(15.3)		12.3	

Note: The symbol > denotes a significant difference between the means at the .05 level. All groups listed for the right of the symbol had means significantly different from and less than the group or groups preceding the symbol. Where no symbol occurs, the difference between the means of the groups is not significant. Parentheses are used to separate out groups whose means are not significantly different from the means of the groups on either side.

groups I and L. Although I had more than L, the difference was not significant.

3. Category 2 of the 12 categories includes those behaviors which may be characterized as showing tension release. Groups L and I showed significantly more tension release than groups C and M. Group C showed more tension release than M, but the difference was not significant.

4. Categories 1, 2, and 3 of the 12 categories include all forms of behaviors which may be characterized as positive social-emotional behaviors. Group L had significantly more positive social-emotional behaviors than groups M and C. There were significant differences among groups I, M, and C.

5. Problems of communication are measured as the behaviors in category 7 (seeking orientation) increase in frequency as compared with behavior in category 6 (giving orientation). Groups C and I showed a significantly greater number of behaviors indicating problems or difficulties of communication than group L. Group M was not significantly differentiated from the other three groups on this behavior measure.

6. Problems of evaluation are measured as the behaviors in category 8 (seeking opinion, analysis, expression of feeling) increase in frequency as compared with behavior in category 5 (gives opinion, analysis, expression of feelings). There was a significant difference between group I and the other three groups on behaviors showing difficulty of evaluation. Although the other groups could be ordered on this index measure—L greater than M greater than C—no significant differences between their means were found.

7. Problems of tension reduction are measured as the behaviors in category 11 (shows tension, withdraws) increase in frequency as compared with behaviors in category 2 (shows tension release, jokes, laughs). Groups C and M had significantly greater difficulty in tension reduction than I and L. Neither C and M nor I and L were found to have significantly different means.

8. Problems of reintegration are measured as the behaviors in category 12 (shows antagonism, deflates other's status) increase in frequency as compared with behaviors in category 1 (shows solidarity, rewards). Group C had a mean significantly greater than the mean for L and M. Groups C, I, and L were significantly different from group M.

9. Problems of expressive malintegrative behaviors are measured as the behaviors in categories 10, 11 and 12 (negative social-emotional behaviors) increase in frequency as compared with behaviors in categories 1, 2, and 3 (positive social-emotional behaviors). Group C's mean was significantly greater than the means for all other groups, and M and I were significantly different from group L.

10. Groups C and I perceived a greater shift in leadership occurring throughout their meetings than did group L. Group M was undifferentiated from the three groups on this PMR item.

3. *Correlation Analyses*

The data were reorganized to examine the correlation between gains in arithmetic and interaction behaviors and perceptions of the 20 group sessions. The Pearson product-moment coefficient of correlation was employed. The results are reported in Table 4.

TABLE 4
SUMMARY OF THE SIGNIFICANT CORRELATIONS BETWEEN ARITHMETIC GAINS AND THE INTERACTION BEHAVIORS AND ITEM 5 ON THE PMR FORMS

Variables	r_{xy}	Significance
Acts per minute	.34	.05
Asks for opinions (category 8)	—.42	.05
Index of difficulty of communication	.40	.05
Index of difficulty of evaluation	—.45	.05
CR index	.42	.05
Index of generalized status	—.40	.05
Item 5 on PMR: showing off	.40	.05

There was a positive association between achievement in arithmetic and (*a*) acts per minute, (*b*) difficulties in communication, (*c*) perception of more behaviors of showing off, and (*d*) variation among members on the proportion of questions received.

There was a negative association between achievement in arithmetic and (*a*) requests for more suggestions, opinions, analysis, expression of feelings; (*b*) giving more evidence of Problems of Evaluation; and (*c*) giving more generalized status to members.

E. DISCUSSION

Thelen postulates that stress in the group activates tension in individuals. The stress results from the group's attempt to handle its work tasks as well as the emotionalties that develop in the group. Thus, tension is reduced to the extent that the members are able to handle these two aspects of group life.

One may raise the question: Were the groups which worked most on the resolution of emotionality problems the highest achieving groups in the present study?

The analysis of the data shows groups L and I had significantly more behaviors directed at reducing tension than groups C and M. This is shown in the significantly greater amount of behavior in category 2 (shows tension

release) for groups L and I than for groups C and M. It is further indicated by the results on the index, Problems of Tension Retuction, which show groups C and M to have worked significantly less than groups L and I on the reduction of tension. An examination of all types of expressive or emotionality behaviors shows groups C and M had less positive and more negative expressive behaviors than did groups L and I. Generally groups L and I appeared to be more positive in their interchild interaction than groups C and M and also had significantly more overt and direct attempts at resolving tensions. Thus, the analysis of the data shows groups L and I to have worked more on the expression or solution of the emotionality aspects than did groups C and M.

The achievement results show groups C and M to have had significantly greater gains than groups L and I. Thus groups L and I worked significantly more on the resolution of emotionality problems than groups C and M but achieved significantly less. The results indicate that greater attention directed at the resolution of emotionality problems was not accompanied by greater achievement for those groups which were studied in this experiment. Conversely, the results indicate that less attention directed at the resolution of emotionality was accompanied by greater achievement.

The above finding relating to the emphasis on emotionality problems is consistent with the writings and findings of Bion and Thelen. That is, if a group works on the resolution of emotionality problems, little may be accomplished on the work task. However, the implication that a group may accomplish its work task without resolving its emotionality problems represents a sharp break with the generally held notions about work groups. It appears that work can be accomplished even though many negative expressive behaviors are shown and where little attempt is made to reduce them. It is generally assumed that a group must be congenial to accomplish work. Our results would seriously question this notion. Another finding which bears directly on this point was the lack of significant differences among the groups on their members' self-rating of satisfaction. This suggests that satisfaction may be derived both from engaging in work tasks as well as engaging in the development of congenial relationships.

If the interpretation is correct, that the groups investigated in this study choose primarily to handle either the work aspects or the emotionality aspects, the following questions may be raised: (*a*) Were the work tasks ones in which success would be independent of success in dealing with emotionality for the particular groups in this study? (*b*) Was the particular kind of emotionality inferred from our analyses such as not to interfere substantially with work? The first question is examined now.

Glidewell was able to conclude from his data that significant differences existed in the quality of group products among different emotional-control groups. Although the conclusions were based on the products of the groups, it is reasonable to assume that the products reflect the interaction work patterns of the groups. If this proposition is accepted, then it is possible to interpret the results of the present study in terms of Glidewell's work.

He found that integrative groups show a wider range of ideas, and flexible but specific solutions. Constrictive groups show a moderate range of ideas—specific solutions within a rigid organization. Labile groups show a narrow range of ideas—overgeneralized solutions within a loose organization. If emotional-control groups can be so differentiated, then it is possible that the nature of a task plays a very important role. For example, a task requiring a good deal of creative thinking (that is, a wide range of ideas and flexible solutions) would be handled much better by an integrative group than a constrictive or labile group. In the present study, the tasks were fairly specific and demanded only a moderate range of ideas. For such tasks the way in which constrictive groups typically work may be more appropriate than the work patterns of the labile or integrative group.

This interpretation may explain why group C achieved significantly better than groups L and I, provided that the data show group C was more similar to a constrictive group than groups L and I. The analyses of the data show that group C worked least on the resolution of emotional problems and had significantly more directiveness of control than all other groups. These behavior patterns are basic characteristics of constrictive groups. Thus it seems reasonable to assert that the nature of the task itself may help to explain why group C achieved significantly more than groups L and I in this study.

The notion that the particular kind of emotionality inferred from the analyses was such as not to interfere substantially with work needs closer examination. The point here is that the kind of emotionality observed in the different groups may not have required resolution in order to allow the groups to work on the arithmetic problems. If this were so, it would be possible to explain with this interpretation the achievement of groups C and M and their significantly fewer attempts at handling the problems of emotionality which were observed in these groups. The possibility that different types of emotionality occurred in the different groups may exist. However, neither the interaction categories nor the PMR data indicated that different types of emotionality existed in the different groups. These ideas need to be investigated further to determine whether such differencs do exist and to what extent they affect achievement.

F. Summary

Four small interaction groups composed on the basis of their members' emotional-control styles were studied over a series of five meetings. Different achievement patterns were identified. When the IPA interaction data were analyzed in accordance with the achevement pattern, a number of significant differences were shown to exist. The study further confirms the theoretical constructs of Bion and Thelen, but suggests that children's work groups may not function entirely on the same assumptions as adult work groups.

References

1. Bales, R. F. Interaction Process Analysis: A Method for the Study of Small Groups. Cambridge, Mass.: Addison Wesley, 1950.
2. Bion, W. R. Group dynamics: A re-view. *Internat. J. Psychoanal.*, 1952, **33**, 235-249.
3. Glidewell, J. Group emotionality and productivity. Unpublished Ph.D. dissertation, Department of Psychology, University of Chicago, 1953.
4. Stock, D., & Thelen, H. Emotional Dynamics and Group Culture: Experimental Studies of Individual and Group Behavior. New York: New York Univ. Press, 1958.

Department of Educational Psychology
University of Wisconsin
Madison 6, Wisconsin

The Journal of Social Psychology, 1964, 64, 287-297.

VALIDATIONS IN COMMUNICATIVE BEHAVIOR OF ATTITUDE-SCALE MEASURES OF DOGMATISM*

Northwestern University and University of the Pacific

FRANKLYN S. HAIMAN AND DONALD F. DUNS[1]

A. INTRODUCTION

A persistent source of skepticism about attitude scales, particularly in measuring such personality dimensions as authoritarianism, dogmatism, or open-mindedness, has been their usefulness as predictors of overt behavior. Several notable attempts to achieve behavioral validation of such scales have been made. The original volume of studies by Adorno and his colleagues (1) reports efforts to validate their F and E Scales through clinical data, projective tests, etc. Rokeach, in reporting the development of his Dogmatism Scale (5), describes extensive work with the Doodlebug problem in his attempts to discover correlations between problem-solving behavior and Dogmatism Scale scores. Haythorn and his associates (4) describe a number of statistically significant behavioral differences they found in discussion groups between persons scoring high and low on the California F Scale. The present series of studies was designed to determine whether differences in communicative behavior between high and low scorers on dogmatism scales could be detected by observers of that behavior.

B. EXPERIMENT I

It was the purpose of this study to determine whether expert judges of public speaking could, on the basis of listening to college students presenting a three-minute impromptu speech on a controversial subject and answering questions for two minutes, predict with significant accuracy the dogmatism-scale scores of those students.

1. *Method*

Eighty-eight students enrolled in five sections of the course in public speaking at Northwestern University during the academic year 1960-1961 were asked, at the beginning of the course, to fill out the 40-item Rokeach

* Received in the Editorial Office on April 8, 1963. Copyright, 1964, by The Journal Press.

[1] The authors wish to acknowledge the work of John Ward, who performed Experiment II.

Dogmatism Scale, interlarded with 40 additional items formulated by Duns which were attempted reversals of various Rokeach items.[2] Approximately half of these students were liberal-arts majors, about one-fourth business majors, and the rest represented a sprinkling of fields, such as education, engineering, and journalism. Both sexes were represented about equally. Also represented were all four college years and a wide variety of religious groups.

Early in the course a round of impromptu speeches was scheduled. No relationship was pointed out, or noted, to the attitude scale which had been administered previously. Each student was given a list of 13 controversial topics, with vigorous one-paragraph quotations provided on both sides of every question, and was asked to select one of these topics, take a position, and speak on it for three minutes. He was then questioned for two minutes by three judges, who were public-speaking instructors at Northwestern, and by any of his classmates who might get the floor. Topics ranged from de-segregation and birth control to fraternities and the House Committee on Un-American Activities.

At the end of each class period, which usually included six or seven speeches, the three judges were asked to rank the speakers on dogmatism and also to give each one a rating on dogmatism of either 4 (High Dogmatic), 3 (Moderate Dogmatic), 2 (Low Dogmatic), or 1 (Very Low Dogmatic). Speeches were also tape-recorded so that some of them might later be transcribed and further analyzed.

2. *Results*

Analysis of the data was confined to those subjects whose Dogmatism Scale scores fell into the upper and lower quarters of the total range. Within those groups a separate analysis was also made of extreme highs and extreme lows. Judges' rankings were converted into figures that would be comparable regardless of the number of persons speaking during a given period and were added to the ratings awarded to arrive at a "total rank and rate" given to each speaker by the three judges combined. The results are presented in Table 1, and reveal a significant difference in both instances.

It will be noted that the mean rank and rate for the extremely low group was not significantly different from the entire low quarter, in contrast to the

[2] The Rokeach Scale, because all items are phrased in a single direction which calls for a positive response from dogmatic subjects, has been criticized for ignoring the problem of response set. It was felt necessary to correct for this defect by including an equal number of oppositely phrased items. Detailed information on the formulation and testing of these new items may be found in Duns (2).

difference that pertained between highs and extreme highs. This suggests that judges were able to make more discriminating observations with respect to the more highly dogmatic subjects, a result which does not hold true when we turn to the judgments which were based upon transcriptions of speeches.

A total of 18 speeches, eight from the high-dogmatic quarter and 10 from the low-dogmatic quarter, were transcribed and submitted in manuscript form to a second panel of three judges. A comparison was then made between the per cent of times the judges of manuscripts correctly identified the speaker's

TABLE 1
DIFFERENCES BETWEEN HIGHS AND LOWS, EXPERIMENT I

Group	*N*	Dogmatism mean	Scale range	Mean total rank and rate	*t*	*p*
Upper quarter	22	302.52	287–336	22.82	2.32	.025
Lower quarter	20	244.04	224–253	19.35		
Extreme highs	10	314.50	303–336	24.20	1.82	.05
Extreme lows	8	235.38	224–243	19.50		

dogmatism category and the per cent of times the judges of oral presentations correctly identified the speaker's dogmatism category. For the eight high-dogmatic subjects thus analyzed, the per cent of correct identifications based on manuscripts was 63 per cent as compared with 83 per cent based on oral presentations. For the 10 low-dogmatic subjects, the per cent of correct identifications based on manuscripts was 67 per cent as compared with 33 per cent based on oral presentations. In other words, judges of manuscripts were able to identify low dogmatics not only as well as, but even slightly better than they were able to identify high dogmatics. Judges of oral performance were considerably more successful in identifying high-dogmatic scorers and considerably less successful in identifying low-dogmatic scorers.

C. EXPERIMENT II

The purpose of Experiment II was to determine whether judges who have some theoretical familiarity with the concept of dogmatism can, on the basis of reading one or two pages of subjects' written views on a controversial issue, predict with significant accuracy the dogmatism-scale scores of those subjects.

1. *Method*

The subjects in this investigation were 87 students enrolled in speech classes at the Indiana University Center in Gary; at Roosevelt University in Chicago; and at Garrett Theological Seminary in Evanston, Illinois. The majority were adults engaged in evening or professional studies and represented a wide range in age, interests, race, and creed. During the week prior to the presidential election of November 8, 1960, these subjects were asked to fill out the 40-item Rokeach Dogmatism Scale. They were then handed a two-page statement which consisted of highly provocative excerpts from the book *A Roman Catholic in the White House,* by Bishop James A. Pike. They were asked to read this paper and then to write their personal reactions to it on a blank sheet provided for that purpose. They could use both front and back if they wished, thus producing from one to two pages of commentary.

These commentaries were then submitted to panels of three judges who were asked to rate each subject by the following assignment of points: 50 (Greatly Closed-Minded), 40 (Fairly Closed-Minded), 30 (So-So), 20 (Fairly Open-Minded), 10 (Highly Open-Minded). The judges were persons who were familiar with the concept of dogmatism as defined by Rokeach, and who could be described as relatively objective on the issue of Catholicism and the presidency.

2. *Results*

An analysis of the data was first made which confined itself to those subjects whose Dogmatism Scale scores fell into approximately the upper and lower quarters of the total range, and also of those in extremely high and extremely low categories. The results appear in Table 2.

A χ^2 test reveals that the distribution of high and low mean ratings awarded by the judges to the upper quarter differs significantly, at the 5 per cent level of confidence, from the distribution of high and low mean ratings awarded to the lower quarter. Although the judges tended to rate the majority of *all* subjects in the more highly dogmatic area (76 per cent to be precise), they did so significantly less often with those low on the Dogmatism Scale than with those high on the Dogmatism Scale. Or, to phrase it another way, only 12 per cent of the highly dogmatic subjects were identified by the judges as low, whereas 36 per cent of those low on the Dogmatism Scale were identified by judges as low.

The data for the 12 very highest and the 12 very lowest subjects on the Dogmatism Scale presented a curious contradiction to the above pattern, for here 83 per cent of both groups were rated by the judges as highly dogmatic.

This immediately suggested the possibility of a curvilinear relationship wherein extreme highs and lows were both rated highly dogmatic by the judges. Tests for correlation ratios (eta) were therefore undertaken, using the Dogmatism Scale scores of all 87 subjects divided into five class intervals (80-109, 110-139, 140-169, 170-199, 200-229) as the Y variable; and the

TABLE 2
DIFFERENCES BETWEEN HIGHS AND LOWS, EXPERIMENT II

Group	N	Mean judges' ratings: Low dogmatism 1–25	Mean judges' ratings: High dogmatism 26–50
Upper quarter High dogmatic (170 and higher)	26	3 (12%)	23 (88%)
Lower quarter Low dogmatic (140 and lower)	25	9 (36%)	16 (64%)
Totals*	51	12 (24%)	39 (76%)
Extreme highs (185 and higher)	12	2	10
Extreme lows (131 and lower)	12	2	10

* $\chi^2 = 3.90$, $p < .05$.

mean ratings awarded to these subjects, also divided into five categories (1-10, 11-20, 21-30, 31-40, 41-50), as the X variable. This analysis resulted in an η_{yx} of .20 and an η_{xy} of .22.

D. EXPERIMENT III

It was the purpose of this experiment to determine whether a subject's peers could, on the basis of the verbal interaction which takes place in a typical college-speech-skills course, predict with significant accuracy the dogmatism-scale scores of the subject.

1. *Method*

The subjects in this study were 223 undergraduates enrolled during the fall, 1961, quarter at Northwestern University in 13 speech-skills classes ranging in subject matter from beginning public speaking (three sections), advanced public speaking (one section), and oral interpretation of literature (four sections) to discussion (four sections) and group leadership (one section). In every instance these courses involve some oral participation on the

part of all students, the amount varying from section to section and from student to student. Each group met for approximately 40 class hours.

At the beginning of the quarter, each student was asked to fill out an open-mindedness attitude scale which had been developed by the senior author of this report and had been tested and revised over a period of four years. The instrument was constructed and is scored in a manner similar to the California F Scale and the Rokeach Dogmatism Scale, and borrows heavily from both. It attempts, however, to correct for some of the defects which have been discovered in those instruments, in particular the problem of response set, by phrasing half the items so that the presumably closed-minded person will agree and half so that he will disagree. Of the 30-item total, five were borrowed verbatim from the Rokeach Dogmatism Scale; five are reversals of Rokeach items (rephrased so that the closed-minded person will respond negatively rather than positively) formulated and tested by Duns (1961); five were borrowed verbatim from the California F Scale; five are reversals of F Scale items formulated and tested by Haiman; and 10 are original statements which item analysis had proven to be most effective on earlier versions and trials of the instrument. Earlier drafts had been found to have a positive correlation of .57 with the California F Scale and .63 with the Rokeach Dogmatism Scale. Test-retest reliability of the version used in the present study was found to be .75.[3]

At the end of the fall quarter, 1961, subjects were asked to fill out a form which listed the names of all fellow students in their particular class and provided four columns headed: Very open-minded, Moderately open-minded, Moderately closed-minded, and Very closed-minded. They were asked to place a check mark beside each name in what they felt to be the most appropriate column. In compiling the results, numerical values were assigned as follows: 1 (Very open-minded), 2 (Moderately open-minded), 3 (Moderately closed-minded), 4 (Very closed-minded). A mean rating was computed for each subject. Since the 13 classes in the study ranged in size from 11 to 24, with an average membership of 17, the mean rating for every subject was based on at least 10 peer judgments and usually 14 to 19 of them.

Since, for the purpose of Experiment IV, 107 of these subjects were again rated in the same fashion in similar classes (but in many instances by different peers) during the winter quarter, 1962, it was possible to compute a test-retest reliability of *mean* peer ratings. The resulting correlation was .26, a small but statistically significant relationship.

[3] Further details about the development and content of this scale may be found in Haiman (3).

2. *Results*

The data in this study were first analyzed by computing a product-moment coefficient of correlation between scores on the Haiman Open-Mindedness Scale, divided into 11 class intervals, and mean peer ratings, also divided into 11 class intervals. The resulting correlation, corrected for attenuation on the basis of a .75 reliability for the open-mindedness scale and a .26 reliability for the mean peer ratings, was .23—a small relationship but statistically significant at the 1 per cent level of confidence. The scatter diagram suggested no such curvilinearity as had been found in Experiment II.

Data were then further analyzed, by means of the χ^2 test, to determine whether those subjects who were identified by their peers as particularly closed- or open-minded differed significantly in their scale scores. The results are presented in Table 3. It will be seen there that when a comparison is made between the 38 subjects rated most closed-minded by their peers and the 40 subjects rated most open-minded by their peers, the difference in the pattern

TABLE 3
DIFFERENCES BETWEEN HIGHS AND LOWS, EXPERIMENT III

Mean peer ratings	*N*	Open-mindedness scale scores: Relatively open-minded (−21 and lower)	Relatively closed-minded (−20 and higher)
2.4 and higher	38	19	19
1.7 and lower	40	26	14
Totals*	78	45 (60%)	33 (40%)
3.0 and higher	4	1	3
1.4 and lower	5	4	1

* $\chi^2 = 2.19$, $p < .20$.

of their scale scores does not quite reach statistical significance. A trend in the predicted direction is evident, however, and it is clear that peers did considerably better in identifying low dogmatics than highs.

When we turn to a consideration of the most extreme cases, we find another clear pattern, although the cell entries are insufficient in number to warrant a χ^2 test of significance. Here we see that of the four subjects placed at the closed-minded end of the continuum by their peers, three did have scale scores in the closed-minded half of the range; and of the five subjects placed at the

open-minded end of the continuum by their peers, four had scale scores in the open-minded half of the range.

E. Experiment IV

Experiment IV was a replication of Experiment III, conducted during the winter quarter, 1962, and utilizing 107 subjects in eight sections of speech-skills courses at Northwestern University. Many of the subjects were the same as those involved in Experiment III, but ranged differently with respect to their fellow students and to the particular course in which they were enrolled. The size of classes ranged from seven to 19, with a mean of about 14. Administration of the open-mindedness scale took place for some at the beginning of the quarter, and for the others had already been administered at the end of the previous quarter as part of another study. Again, peer ratings of open- and closed-mindedness were obtained at the end of the quarter and compiled as described above. The results appear in Table 4, and reveal both a clear and statistically significant pattern. High and extremely high closed-minded subjects, as measured by scale scores, were identified as such by their peers with significant frequency, as were open- and extremely open-minded groups.

TABLE 4
Differences Between Highs and Lows, Experiment IV

Mean peer ratings	*N*	Open-mindedness scale scores: Relatively open-minded (—21 and lower)	Relatively closed-minded (—20 and higher)
2.3 and higher	30	11	19
1.6 and lower	22	16	6
Totals*	52	27 (52%)	25 (48%)
2.8 and higher	5	1	4
1.4 and lower	5	4	1

* $\chi^2 = 5.88$, $p < .02$.

F. Discussion

In spite of some inconsistencies and contradictions, the general pattern of findings in these studies leads to the clear conclusion that it is possible, with a modest but statistically significant degree of assurance, for observers to predict subjects' scores on dogmatism scales from various forms of communicative

behavior. To put it another way, the dogmatism scales used in these studies have received here some behavioral validation.

The major inconsistency—an unresolved problem—has to do with the differential degree to which those toward the high and low ends of the dogmatism scale are successfully identified, although in part this may be a function of the various types of communication situations involved. In the oral-behavior phase of Experiment I, the judges did relatively well in identifying dogmatic subjects and relatively poorly in identifying nondogmatic subjects, but when reading the manuscripts they improved to the point of erasing this difference. In Experiment II, where manuscripts were the basis for judgment to begin with, the judges again identified high dogmatics with greater precision than lows, which appears to contradict the findings of the manuscript phase of Experiment I. It should be noted, however, that in Experiment II the communication was presented *initially* in written form, whereas in Experiment I the manuscript was simply a transcription of what had originally been oral communication. Experiment III suggests that low dogmatics are more easily identified than highs, but here we are dealing with still another basis of judgment—interaction over a relatively long period of time—and we are also using a somewhat different attitude scale. Experiment IV, however, with conditions comparable to Experiment III, wipes out this differential and leads one to believe that highs and lows are equally identifiable. It would appear that further research is needed on this point.

The other, and closely related, unresolved question is whether the relationship between attitude-scale scores and observer judgments is linear or curvilinear. Experiment II clearly presents a curvilinear pattern. The finding in Experiment I that the extreme low dogmatics received a mean rating from the judges no lower than (and even possibly higher than) the total low quartile provides some support for this hypothesis of curvilinearity, but only at the low end of the dogmatism range. Experiments III and IV contain no hint of curvilinearity in the quantitative analysis. However, when one turns in these experiments to an examination of some of the individual cases which deviate from the general linear-correlational pattern, some interesting information emerges.

The most striking deviations are subjects who score very open-minded on the attitude scale but are judged highly dogmatic by observers of their verbal behavior. Although these cases are sufficiently outnumbered by subjects who score very open-minded on both variables to bar the emergence in Experiments III and IV of a curvilinear relationship, they do serve to reduce the size of the positive linear relationship below what it might otherwise be. Acquaint-

anceship by one of the investigators with the personalities of some of the deviant cases, as well as with those who more closely followed the predicted pattern, supplies one possible clue to the dilemma. It appears that there may be roughly two types of personality who score very open-minded on attitude-measurement scales—those who genuinely fulfill the criteria described by Rokeach and behave as they think, and those whose open-mindedness is more a matter of intellectual doctrine which does not carry over into interpersonal behavior. If the sample population happens to include an overabundance of the latter type, what might otherwise be a linear relationship between attitude-scale scores and observer ratings of behavior would become twisted at the open-minded end of the range into a curvilinear pattern. This may be what happened in Experiments I and II, where the extreme lows were rated no less dogmatic than the lows. It could also explain why, in Experiments I and II, judges seemed to have so much more difficulty correctly identifying low dogmatics than highs.

G. Summary

A series of four studies conducted with a population of 505 persons enrolled in 33 sections of speech-skills courses was designed to determine whether persons who scored relatively high and relatively low on attitude-scale measures of dogmatism could be accurately identified on the basis of their communicative behavior by observers of that behavior. The Rokeach Dogmatism Scale and other open-mindedness scales developed by the authors were the paper-and-pencil instruments used. A variety of communicative situations were employed as the basis for observer judgments, including impromptu speeches on controversial topics, written commentaries on the religious issue in the 1960 presidential election, and verbal interaction during an entire school quarter. Communicative behavior was rated by panels of judges or by peers. Results in all studies indicated that it was possible, with a modest but statistically significant degree of assurance, for observers to predict subjects' scores on dogmatism scales from their communicative behavior. In other words, the dogmatism scales used in these studies received some behavioral validation.

References

1. Adorno, T. W., Frenkel-Brunswick, E., Levinson, D. J., & Sanford, R. N. The Authoritarian Personality. New York: Harper, 1950.
2. Duns, D. A study of the relationship between dogmatism and speech behavior. Unpublished Doctoral dissertation, Northwestern University, Evanston, Illinois, 1961.

3. HAIMAN, F. A revised scale for the measurement of open-mindedness. *Speech Monog.*, 1964, **31**, 97.
4. HAYTHORN, W., COUCH, A., HAEFNER, D., LANGHAM, P., & CARTER, L. F. The behavior of authoritarian and equalitarian personalities in groups. *Hum. Relat.*, 1956, **9**, 58.
5. ROKEACH, M. The Open and Closed Mind. New York: Basic Books, 1960.

School of Speech
Northwestern University
Evanston, Illinois

The Journal of Social Psychology, 1964, 64, 299-306.

VOCATIONAL INTEREST SCORES AND PATTERNS OF AESTHETIC PREFERENCE* [1]

Psychological Laboratory, Wesleyan University

ROBERT H. KNAPP AND EDWARD G. HOFFMAN

A. INTRODUCTION

Earlier, in this journal and elsewhere (2, 3, 4, 5) the senior author has reported experimental results relating preference for a selected group of Scottish tartans (1) and a variety of psychological attributes. In the present study, this test of aesthetic preference has been employed to determine its capacity to predict patterns of vocational interest as manifested by performance on the Strong Vocational Inventory (7). We are guided in this inquiry by the hypothesis that patterns of preference for these tartan designs manifest primarily temperamental and motivational dispositions, not intellectual capacities; that preference for vocations is in large part determined by temperamental considerations as attested by a large number of studies—and notably by the Strong Inventory itself, which is primarily a test of preference for varying activities, hobbies, and recreation. We shall attempt in the following to demonstrate that for a selected number of factor scores taken from records of performance on the Strong Inventory, there exist identifiable patterns of preference for our tartan patterns, and further that the pattern of intercorrelations relating the actual Strong factors is with considerable fidelity reproduced among the correlations relating the ordering of our selected tartans.

In evaluating the data, we should keep in mind certain considerations respecting factors affecting reliability. In the first place, the interval between the taking of the Strong Inventory and the administration of the tartan test varied from a few months to almost two years. Second, the correlations reported are not corrected for either attenuation due to coarseness of grouping or the imperfect reliability of either test itself. Thus, these correlations present minimal relations in the main. Despite these considerations, however, we believe that a relationship aesthetic preference on our test and performance on the inventory itself is clearly demonstrable.

* Received in the Editorial Office on April 10, 1963. Copyright, 1964, by The Journal Press.

[1] This study was supported by Grant M-2178 from the National Institute of Mental Health.

B. Method and Procedure

The subjects employed in this study consisted of 90 male freshmen and sophmores. All had taken the Strong Vocational Inventory on admission in their freshman year and records of their performance were available for reference. For each subject, five factor scores were computed; namely, those for Factor II (physical science), Factor III (production manager), Factor V (public service), Factor VIII (finance and accounting), Factor IX (salesmanship), and Factor X (legal and journalistic). We confined our study to these six factors partly in the interest of experimental economy and partly with the purpose of selecting vocational clusters which yielded significant correlations, positive or negative, on the Strong Inventory itself.

Since the construction of the tartan test has already been reported in this journal, we shall not review it in detail here. Briefly, it consists of 30 selected lithographic reproductions of tartan designs incorporating a wide variety of colors and degrees of configurational complexity (5). For purposes of discussion, it is useful to classify them roughly as "open" or "closed" depending upon the fineness and complexity of their striations, and as "warm" or "cold" depending upon the predominance of red as opposed to blue or green. The tartans were presented in a random order to the subjects, who were then required to divide them into six groups of five each according to the degree of aesthetic appeal as designs. Thereafter, the subjects were asked to pick the single most pleasing and the single least pleasing design from the two extreme categories. This procedure yielded a division of the tartans into eight groups—the first group and the last group consisted of a single specimen; the second and the seventh, of four; and the remaining categories, of five each. For purposes of mathematical treatment, the groups were assigned numerical values from one to eight, eight designating the most preferred.

For each of the 30 tartans, correlations were obtained with the six factor scores of the Strong Inventory. Next the tartans were ordered for each factor according to the degree that they correlated positively or negatively with the factor in question. Thus, for each factor we obtained a picture of the tartans generally preferred by persons high or low in that vocational-interest area.

C. Results

For purposes of simplicity, we shall report in the following only those tartans which correlate with our several Strong factors at the 10 per cent level or better. Table 1 lists the tartans attaining this level of significance with respect to the score on Factor II. It will be observed that 15 tartans

yield correlations in excess of the 10 per cent level—nine in the positive, six in the negative direction. Of those yielding positive correlations, eight are clearly of open pattern, and seven of these are predominantly blue or green. One of the open tartans is predominantly yellow, while the ninth tartan is an asymmetrical red-green design. The tartans yielding negative correlations, on the other hand, are with one exception predominantly red, while of these all save one is distinctly of a closed pattern. It is thus strongly suggested that

TABLE 1
TARTANS CORRELATING WITH FACTOR II

Tartan	Correlation
Positive	
Colquhoun	354
MacLeod of Lewis	293
Stewart of Appin	250
Clergy	226
Campbell of Breadalbane	197
Douglas	185
Leslie	162
Elliot	154
Negative	
Innes	—409
Hay	—249
Sinclair	—249
Cameron of Erracht	—216
Macrae	—153
MacPherson, Hunting	—150

interest in scientific vocations is positively associated with preference for cold-open tartans, and negatively associated with preference for warm-closed designs.

The tartans yielding correlations at our prescribed level of significance for Factor III (production manager) of the Strong Inventory are given in Table 2 and number only six. The pattern here is clearly less distinct than in the instance just reported. Nevertheless, all four tartans yielding negative correlations belong to the warm-closed category, while the two yielding positive correlations are both of open design—one blue-green, the other gray.

Tartans correlating to our established level with Factor V (i.e., vocations involving public service) are 10 in number, equally divided between a positive and a negative relationship. They are shown in Table 3. The distinction between those correlating positively and those correlating negatively is in this instance not easily definable. Still, those correlating positively are with one exception more open than those correlating negatively. Moreover, those

correlating positively tend to be tartans of an odd or atypical character (i.e., yellow or asymmetrical) which show a general positive correlation with general elevation on the Minnesota Multiphasic Personality Inventory in a study not here reported.

Tartans correlation with Factor VIII of the Strong at the 10 per cent

TABLE 2
TARTANS CORRELATING WITH FACTOR III

Tartan	Correlation
Positive	
Balmoral	200
Colquhoun	156
Negative	
Hay	—313
MacLachlan	—188
Stewart, Prince Charles Edward	—163
MacDonald of Staffa	—154

TABLE 3
TARTANS CORRELATING WITH FACTOR V

Tartan	Correlation
Positive	
Barclay	137
MacLachlan	314
MacPherson, Hunting	184
Colquhoun	150
Ogilvie	148
Negative	
Drummond	—216
Clergy	—187
Sutherland Ancient	—147
Stewart of Appin	—184
Cumming	—145

level or better are listed in Table 4. In this instance, all of the tartans yielding positive correlations may be described as closed or of fine textural configuration, while those yeilding negative correlations are more open in pattern. Chromatic differences are less striking, though there is no red tartan among those correlating negatively and no blue-green tartan among those correlating positively. The pattern obtaining here, associated with vocational interests in finance and accounting functions, is therefore somewhat in contrast to the pattern obtaining for physical scientists.

Factor IX shows a very incisive pattern obtaining among the tartans which correlated negatively and positively with this vocational interest associated with sales occupations. Table 5 reveals the 15 tartans correlating at the 10

per cent level or better with respect to this factor. Of the tartans which correlate positively here, all eight may be classified as warm-closed design with a strong predominance of red and with no instance of significant blue or green color. Those correlating negatively are all of an open configuration, and all are blue or green save one yellow. This pattern stands in striking

TABLE 4
TARTANS CORRELATING WITH FACTOR VIII

Tartan	Correlation
Positive	
Cameron of Erracht	251
Stewart of Appin	218
Cumming	190
Innes	181
Ogilvie	148
Negative	
MacLeod of Lewis	—321
Clergy	—254
Sutherland Ancient	—187
Leslie	—181

TABLE 5
TARTANS CORRELATING WITH FACTOR IX

Tartan	Correlation
Positive	
Cameron of Erracht	252
Stewart, Prince Charles Edward	243
Hay	220
Innes	194
MacDonell of Glengarry	185
Drummond	179
MacDonald of Clanranald	162
Ogilvie	159
Negative	
Leslie	—462
Colquhoun	—249
MacLeod of Lewis	—243
Douglas	—217
Elliot	—191
Clergy	—176
Logan	—156

contrast to that obtaining for physical science, and the ordering of the tartans according to these two patterns of correlation, as we shall see, yields a highly negative correlation.

Factor X (legal and journalistic) yields only six correlations with tartans exceeding the 10 per cent level. Table 6 lists these tartans. It is not possible in this instance to describe with conviction the differences between the two

categories of tartans if only because of their positivity. Still, the conspicuous absence of any open-cold tartans from either category may be mentioned while three of the four preferred tartans are of the warm-closed type. The tartans with negative correlation include a somber closed tartan and a peculiar asymmetrical red-and-green specimen.

Since each of 30 tartans was correlated with each of our six factorial scores from the Strong Inventory, it proved possible to establish a rank ordering

TABLE 6

TARTANS CORRELATING WITH FACTOR X

Tartan	Correlation
Positive	
MacPherson, Hunting	252
Hay	252
Drummond	216
MacDonald of Staffa	179
Negative	
MacDonell of Glengarry	—318
Stewart of Appin	—151

TABLE 7

CORRELATIONS BETWEEN RANK ORDERING OF TARTANS FOR STRONG FACTORS (UPPER CORRELATIONS) REPORTED BY STRONG BY THE INVENTORY (LOWER CORRELATION)

Factor	Factor II	III	V	VIII	IX
III	.33				
	.37				
V	—.02	.11			
	—.45	—.33			
VIII	—.48	—.04	.14		
	—.50	.39	.03		
IX	—.53	—.68	—.04	.34	
	—.87	—.23	.19	.38	
X	—.14	—.07	.10	—.25	—.01
	—.12	—.71	.08	—.48	.29

of the tartans with respect to the degree of their correlation with each factor score. This permitted us to establish six rank orderings of the tartans, one for each factor of the Strong Inventory under consideration. Next we calculated a correlation matrix describing the relation between these six orderings. In Table 7 we present this correlation matrix together with the correlation matrix reported by Strong for the Inventory factors themselves. The general congruence of the two matrices is obvious, lending support to the proposition that qualities measured by the Strong Inventory are being clearly reflected in

patterns of aesthetic preference for our tartans. The rank-order correlation of the two matrices stands at the very secure level of plus .77.

D. Discussion

The results reported in the foregoing are neither so sensational that they justify extravagant acclaim, nor so void as to be readily dismissed. We have been able to demonstrate that the aesthetic is a promising avenue for the evaluation of temperament, in this case presumably qualities of temperament associated with vocational interests as manifested on the Strong Vocational Inventory. That each of the six patterns of aesthetic preference bears some relationship to the Strong factor involved is suggested by a comparison of the two correlation matrices presented. In the case of Factors, Factor II and Factor IX—associated with interest in scientific and sales occupations respectively—a very incisive pattern of preference is indicated. Moreover, the two patterns are in sharp contrast, scientific interests being associated positively with cold-open designs, and sales interests with the warm-closed. These two types of tartans might be described in classical Gestalt terminology (6) as possessing low and high energy density respectively. Thus, "soft" color and vacuous configuration characterize the first class of cold-open tartans, while "hard" color and high configurational complexity characterize the second. We surmise that preference for low energy density in aesthetic design may well characterize individuals eager to keep their environment under maximum control, distrustful of emotional forces, and of introversive and intellectual disposition. Individuals preferring high density stimuli in the aesthetic domain tend, we surmise, to welcome emotional involvement, to avoid socially isolated and intellectual callings, and to stand committed to an extrovert life. This general hypothesis, consonant with other as-yet-unreported findings, may well constitute the most fruitful theoretical suggestion deriving from this study. Meanwhile and more generally, the employment of aesthetic preference for the evaluation of temperament claims here some modest further support.

References

1. Bain, R. The Clans and Tartans of Scotland. London: Collins, 1938.
2. Knapp, R. H. An achievement and aesthetic preference. In Atkinson, J. W. (Ed.), *Motive in Fantasy, Action and Society*. Princeton, N.J.: Van Nostrand, 1958.
3. ———. Attitudes toward time and aesthetic choice. *J. Soc. Psychol.*, 1962, **56**, 79-87.
4. Knapp, R. H., & Green, H. B. Time judgment, aesthetic preference and need achievement. *J. Abn. & Soc. Psychol.*, 1958, **58**, 426-434.
5. Knapp, R. H., Brimner, J., & White, M. Education level, class status, and aesthetic preference. *J. Soc. Psychol.*, 1959, **50**, 277-284.

6. KOFFKA, K. Principles of Gestalt Psychology. New York: Harcourt, Brace, 1936.
7. STRONG, E. K. Vocational Interests of Men and Women. Stanford: Stanford Univ. Press, 1943.

Psychological Laboratory
Wesleyan University
Middletown, Connecticut

The Journal of Social Psychology, 1964, 64, 307-325.

SOME SOCIOPSYCHOLOGICAL OBSERVATIONS IN A NUDIST CAMP: A PRELIMINARY STUDY*

City College of New York

LAWRENCE CASLER

A. INTRODUCTION

"Sunshine Village" is the fictitious name of a nudist camp situated in a mountainous area approximately two hundred miles west of New York City. The camp is one of the largest in the United States, covering 76 acres, mostly hilly woodland. The center of activities is a flattened area that is the first part of the camp encountered by the visitor as he enters via the gravel road that leads off from a public highway. The nearest town is two miles away.

The two-story administrative building is located in the center of activities (nicknamed "Times Square" by the members). The directress of the camp, a woman in her late forties who shall be referred to as Marion, conducts the camp's business (record keeping, cash receiving, visitor greeting) in the office that comprises the top floor of this structure, while down below is a combination snack bar and drugstore with nudist magazines, cigarettes, sun-tan lotion, etc. Other buildings in this area include a no-longer-used dining hall, a building containing toilet and shower facilities (separate for males and females), a few wooden cabins available each weekend on a rental basis ($3 per night), and a 30-bed dormitory (males and females not separated; slightly lower rental charge). In the center of this area is an attractive, modern medium-sized swimming pool, with surrounding benches and tables. A volley-ball court, Ping-Pong tables, swings, and a small grassy area for sunbathing, ball playing, etc., are also located here. Many of these buildings and facilities were erected by Marion and her husband and another couple when the camp was founded 16 years ago. Surrounding this busy area are gently sloping hills, among which some of the members have built their own cabins. Ordinarily, these cabins are occupied by the owning families for a large part of the summer; but in some cases the husband, holding down a job outside the camp, comes to Sunshine Village only on weekends.

The steady influx of new members, the occasional nonrenewal of expired memberships, the frequent visitors from other camps, and the large number

* Received in the Editorial Office on April 10, 1963. Copyright, 1964, by The Journal Press.

of nonnudist visitors (about whom more will be said later) make it difficult to arrive at reliable membership figures. A conservative estimate of the total active membership would be 350 adults and perhaps 50 children. Of the adults, approximately 60 per cent are males and 40 per cent are females. Most of the women and about one-half of the men are married. The age range of the members is from infancy to 85 years.

Not all of the members are present each weekend. While some nudists will go to Sunshine Village regardless of the weather, the average turnout of 150-200 (excluding the all-summer and all-year residents) is drastically reduced on cold or rainy weekends. But a particularly sunny weekend, or a holiday weekend, may increase the attendance to 300 or more.

Those who own cabins have formed an organization that meets periodically to discuss financial, recreational, and other policies. I was invited to attend one of the group meetings, but immediately after my arrival a number of the members insisted that I leave. (This was probably because the meetings are, reputedly, often quite stormy. The cabin owners, and a few others, are not always in agreement with Marion and her administrative assistant regarding the allocation of funds, admission requirements, and the like; but the discontent is confined largely to a few of the older members, some of whom admit that they enjoy being involved in camp "politics." Even those members with serious disagreements with the administration are sufficiently satisfied with the camp as a whole so that major disturbances are virtually nonexistent. Occasionally a member will angrily place a "For Sale" sign in front of his cabin, but this is probaby more a symbolic gesture than anything else; some of the signs have been up for several years.)

While the camp has many long-term members, it attracts large numbers of visitors and prospective members each weekend. Virtually all camps are actively interested in enlarging their memberships, but screening of would-be members is taken quite seriously. Every visitor to Sunshine Village must either be known and vouched for by a current member, or be interviewed by a "contact man" in New York, Philadelphia, or some other nearby municipal center. This preliminary interview concerns motivation, background, and the like; very few individuals or couples are denied permission to visit. Visitors can spend one weekend in Sunshine Village, paying only the nominal grounds fee and room-and-board expenses. Should they wish to return, however, they are obliged to become members.

There are very few formal membership requirements. Married men are not permitted to join without their wives, unless they present written permission from their wives. Single men are strongly urged to bring female companions.

Although single men are not forbidden membership, the fee for unaccompanied single men is $80 per year, compared to $35 per year for couples and families. (These fees also include membership in the Eastern Sunbathing Association and the nationwide American Sunbathing Association.)

It should be pointed out that Sunshine Village is not typical of all nudist camps in every respect. Each camp has its own admission policies, some admitting only married couples, some banning Negroes, etc. Each camp has its own atmosphere and its own living standards, some providing cabins and grounds far more luxurious than others. This report should, therefore, be regarded primarily as a preliminary exploratory study, more useful as a *source* than as a *test* of hypotheses.

B. Some Sociopsychological Attributes of Nudists

Interviews or questionnaires were administered to about 40 per cent of the adult members of the camp. Since I was present at Sunshine Village for only six alternate weekends, I missed many of the less active members who come only once or twice during the whole summer. Also, because no checklist of the membership was available, it was difficult to track down members who spend most of their time in remote parts of the camp. Nevertheless, it is my impression, based on the spread in ages, occupations, and backgrounds, that a fair degree of representativeness was achieved. Three individuals refused to answer all questions.

1. *The Sample*

Table 1 presents basic data regarding the persons who were interviewed or filled out a questionnaire. Since the 23 nonnudist visitors whom I contacted might represent a transitional group between nudists and the general nonnudist population, information regarding them is also tabulated. It should be noted that not every respondent answered every question; so the totals and subtotals in this and the following tables vary somewhat. The above tabulation underrepresents the number of broken marriages; several of the early respondents who indicated that they were married did not indicate that this was not their first marriage. This defect in the questionnaire was rectified after about 30 respondents.

In Table 1, the single males outnumber the single females by four to one. This is the approximate proportion for the entire membership. As will be seen later, it is unlikely that this is because nudism is more appealing to males than to females; other factors seem more plausible. For example, many female

respondents reported that they had never heard of nudism until reaching adulthood; most males, on the other hand, had seen copies of nudist magazines during adolescence and later, and therefore knew where information was available regarding the location of camps, etc. (It should be remembered here that we are discussing only serious nudists; presumably the "thrill seekers" are eliminated via the screening interviews, or else are so disappointed after one visit to a nudist camp that they never return and hence play only a negligible part in this discrepancy.) Furthermore, single males are more likely

TABLE 1

THE SAMPLE

Datum	Nudists			Nonnudist visitors		
	Male	Female	Total	Male	Female	Total
Number	66	46	112	14	9	23
Mean age	37	40	39	34	27	31
Marital status						
Married	33	31	64	4	4	8
Single	19	5	24	4	1	5
Divorced or annulled	8	7	15	4	0	4
Widowed	5	2	7	0	0	0
Number of years in organized nudism						
Mean	5	7	6			
Range	.5–27	.5–16				

to be able to afford the $80 membership fee, and are more likely to own automobiles—by far the best means of reaching the camp. Also, as will be seen, it may be that the idea of nudism is more appealing to male than to female *nonnudists,* so that visitors (among whom are a large number of future members) will be preponderantly male.

2. *The Occupations*

The following occupations were represented in the group of respondents: accountant, aircraft technician, airline worker, artist, attorney, auditor, bookkeeper, businessman, carpenter, chemist, clergyman, clerk, dress designer, editorial worker, electrical engineer, factory worker, fuel dealer, glassworker, handyman, highway-safety official, hotel supervisor, housewife, industrial engineer, industrial-relations consultant, interior decorator, laborer, machinist, manufacturer, mathematician, meatcutter, mechanic, merchant seaman, model, music teacher, musician, neuropsychiatrist, nudist-camp director, nurse, nurse's aid, photolithographer, physician, psychiatric nurse, railroad conductor, sales

engineer, salesman, seaman, social worker, stenotypist, student, teacher—high school, teacher—college, toolmaker, traffic manager, truck driver, warehouseman, welding engineer, writer.

It is apparent that Sunshine Village includes persons with a large variety of occupations and, presumably, sociocultural backgrounds. I am told that this is one respect in which the camp differs from many others: not only is there a wider-than-usual range of backgrounds, but also the general intellectual level is allegedly higher here than at other camps in the area. (A visit by the author to another camp did not substantiate this claim.) A number of respondents reported that they had formerly been members of other camps and had transferred to Sunshine Village because of the latter's more stimulating intellectual atmosphere.

The absence of clothing and of last names (which are never used in the camp and need be known only by Marion) makes status differences difficult to uphold. Even the occasional appearance of flashy jewelry and fancy cars does not disrupt the essential equality at the camp. One frequently does not know whether the person he is playing Ping-Pong with is a truck driver or an attorney.

C. The Findings

Obviously, a mere rundown of occupations tells us very little about the forces responsible for the decision to become a nudist. While many of these determinants are undoubtedly below the conscious level, it may be instructive to review the responses to the direct question, "Why did you become a nudist?" As will be seen, some respondents interpreted this question to refer to the reasons they chose Sunshine Village in particular; a few others answered the question by citing the circumstances under which they decided to visit a nudist camp, but most of the answers deal with reasons for affiliation with social nudism in general. Contrary to what might have been expected, Table 2 suggests that ideological conviction is far from being the only, or chief, reason that people become nudists. Frequently the impetus is curiosity or the urging of friends or relatives. But whatever the reason for the initial visit, most members *are* members simply because they have fun, rather than because of ideological reasons. Only 12 respondents gave "moral principles" as a reason, while 36 referred to physical or mental health, and nearly 80 mentioned the pleasurable aspects of nudist life. Note that only one respondent (a woman) spontaneously mentioned the desire to see a member of the opposite sex undressed. But it is more than likely that many of the other answers—curiosity about nudism, mental health, etc.—had this as an important component.

TABLE 2

ANSWERS TO QUESTION: "WHY ARE YOU A NUDIST?"

Answer	Male	Female
Brought by someone	2	18
Friend	1	0
Parents	1	2
Spouse	0	16
"Return to nature"	10	8
Closeness to nature	8	5
Escape city heat	0	1
Exposure to the sun	2	2
Curiosity	8	3
Curiosity about nudism	8	2
Desire to see member of opposite sex undressed	0	1
Freedom	12	5
Feeling of freedom	10	5
Rebelliousness	1	0
Desire to do something unconventional	1	0
Recreation	20	8
Inexpensive weekends	3	0
Desire to swim in the nude	9	2
Recreational facilities	3	1
Relaxation	5	5
Attracted by publicity	12	3
Nudist film	2	1
Nudist magazines and news items	10	2
Self-improvement	30	9
For mental health	11	1
To learn acceptance of own body	3	0
For physical health (including physician's recommendation)	16	8
Moral principles	10	2
Miscellaneous	10	12
Acquire allover tan	0	1
Aesthetic appreciation of the human body	1	0
Feeling of sensuousness	0	1
For benefit of respondent's children	0	4
Likes the people at the camp	9	3
Avoid nuisance of buying clothes and dressing well	0	1
On a dare	0	1
Pride in own body	0	1

Note: Several respondents gave more than one reason.

A simple tabulation does not convey the richness and thoughtfulness of many of the responses. The following are verbatim transcriptions of some of these responses:

1. Coming from Scotland we were not used to the high temperatures which we had to meet up with while living in New York. So—little by little and piece by piece—we became nudists without knowing. Only in the apartment, of course. After finding out about nudism through curiosity mostly, we are now confirmed nudists and think there is nothing better in the world for everyone. (Female, age 28)

2. I have two reasons to become a nudist. 1) Curiosity of living naked together with women. 2) The need of sunshine for my lungs. (Male, age 59)

3. Nudism to me is a wonderful way to relax and feel free of clothes and gives a wonderful feeling of the whole body to relax. Sunbaths are very healthy to a certain extent on your physical condition. Also it is teaching my 11-year-old daughter things that would be hard to explain of the opposite sex. We look to nudism as a wonderful thing and I just hope that it never fades away. (Female, age 48)

4. Never heard of nudism until my husband told me about it in 1942. Was very shocked and could see no reason for it. Was very modest and self-conscious about my body due to my upbringing; in fact I thought it was indecent. Knowing my husband loved me and would do nothing to hurt me, I consented to go for a vist to a camp if I could wear clothes. Unfortunately it was not the right camp to bring a beginner and that plus other personal things prevented my visiting a camp until 1947. My first visit to a real nudist camp convinced me that it was the most wonderful thing that could happen to anybody and I vowed my children would be brought up as nudists. My daughter has been a nudist since birth; her first visit was at 3 months and she has been coming ever since. (Female, age 45)

5. My introduction to nudism came through nudist magazines encountered during army service. The subject was thoroughly discussed in barracks bull sessions, and the memory of many nude swimming experiences I had had sparked my interest. When I finished the service and college, I wrote various letters of inquiry to nudist camps, and wound up at [Sunshine Village]. I don't feel that nudism is the answer to all the world's ills, but I enjoy the relaxed unconventional atmosphere, and think that it can have a good influence on growing children, who all too often are bundled up and overprotected in today's society. It is to be hoped that the freedom of thought and liberal viewpoint these children receive will make them better-thinking and happier adult citizens. A study to determine what effects are derived, if any, from such a child's background would also be interesting. (Male, age 34)

6. I can see no need to wear clothes except for warmth or because

> society demands it. I probably also enjoy a certain sensuousness from the feeling of the flow of air against my skin. There is also a complete sense of freedom evolved from lack of restrictive clothing. (I came from a restrictive home atmosphere.) There is also a certain amount of egotism involved since I am proud of my physique—although I dress in clothes accordingly for the same reason. (Female, age 25)

One of the major flaws in this exploratory study was that many respondents did not give such detailed accounts as those reproduced above. In future investigations, a number of more probing questions will be included. (In regard to the fourth response, reproduced above, it should be pointed out that the rule at Sunshine Village is that every male visitor must take off his clothes, weather permitting, but that female visitors can remain fully clad as long as they wish. Presumably this regulation is designed to minimize the possibility of "Peeping-Tomism," as well as to take into account the fact that many potential female nudists will never set foot in a nudist camp unless they are assured that they need not expose themselves. Once they *do* set foot on camp soil, the problem easily resolves itself. People with clothes on feel rather self-conscious when everyone else is nude. Also, the swimming pool becomes increasingly appealing as the temperature rises, and no clothing of any kind is permitted in the pool.)

Obviously, a nudist may not be entirely aware of all his motivations. It may be useful, therefore, to examine some background facts that may be related to the decision to embrace nudism. Several questionnaire and interview questions were intended to get at these factors. The answers to one such question—"What would you say was the attitude of the family in which you grew up toward the human body?"—revealed no significant differences between male and female nudists, or between nudists and nonnudist visitors. Approximately one-half of the respondents indicated that they had grown up in rather prudish home surroundings, while a quarter reported having families who were liberal in this regard, and the remainder gave responses suggesting neither prudish nor liberal backgrounds. It is not known how the nonnudist population at large would answer this and other questions.

One may very tentatively conclude that the decision for nudism is generally not a reaction against prudish upbringing nor is it something specifically learned in a liberal home. (There are exceptions to this, of course, and it may very well be that family experience *is* an important variable but one not easily explored except by depth interviews.)

"Was nudism practiced in the home in which you grew up?" Only three

out of 36 female nudists answered this question affirmatively, and only three of 55 males. Among the nonnudist visitors, one out of 22 had grown up in a nudist home. For most persons, then, nudism is not yet transmitted from generation to generation as religions may be. (This statement will be slightly modified later when observations of nudist children are reported.)

A background factor that does seem influential, pending full study with a nonnudist control group, is revealed through the following question: "Did you ever engage in nudist activities, such as sunbathing, swimming in the nude, etc.? (Do not include experiences in a nudist camp.)" About half of the females answered "yes" to this question, and more than three-fourths of the males. These percentages seem higher than what would be expected in the general population. Also, 13 of the 21 nonnudist visitors who answered this question reported such experiences. Apparently, many people learn about the pleasures of nudism before participating in nudism as an institution. One may say that such persons have a high degree of "readiness." While the males reported such activities as occurring with equal frequency at various ages, all but two of the female nudists reported no nudist-type activity of any kind during childhood (13 reported such activities as occurring in adolescence or later). It is difficult to interpret this difference, other than to have recourse to the general statement that girls in our society are afforded less freedom than boys.

Another question aimed at ascertaining early "training" for nudism was the following: "Excluding nudist camp experiences, have you ever been seen undressed by a member of the opposite sex (not counting relatives, doctors, etc.)? If so, at what ages and under what circumstances?" Among the nudists, 14 out of 35 females and 40 out of 55 males answered in the affirmative. Among the nonnudist visitors, three out of seven females and 13 out of 14 males answered affirmatively. This again would seem to be more than would be expected in the general population. More than half of the males reported that these incidents had occurred either in the context of lovemaking, or at swimming parties. (The females' responses were more varied, including swimming, modeling, lovemaking, camping, etc.) Since lovemaking was reported relatively frequently, one cannot conclude that a nudist is more likely than a nonnudist to have escaped being conditioned by the so-called sex-body complex. But it may be safe to assert that active or potential nudists are more likely than nonnudists to have had pleasant experiences involving their unclad bodies. Needless to say, considerably more research is necessary to evaluate this hypothesis. Virtually the same results and tentative conclusions came out

of the complementary question of whether or not the respondent had ever seen a member of the opposite sex undressed.

A commonsense assumption regarding readiness to accept nudism was tested by the following question: "What is your opinion of your own body, as compared to others: better built than the average ——, less well built than the average ——, just about average ——?" For both males and females, more than 80 per cent reported "average," and fewer than 10 per cent reported "better than average." (It should be noted that most of the nudist magazines sold at newsstands specialize in photographs of voluptuous models who are not representative of the nudist population as a whole.)

Every Sunday at Sunshine Village, there is an outdoor nonsectarian religious service. The beautiful natural surroundings and the feeling of fellowship engendered by sharing an experience with dozens of adults and children, all unclad, is impressive and rewarding for believer and nonbeliever alike. Still, it may be profitable to study religion as a factor in the decision to accept nudism. When asked how often they normally attend religious services (not including services at the camp), 18 per cent answered "regularly"; 13 per cent, "often" (once or twice per month); 13 per cent, "occasionally"; 36 per cent, "seldom"; and 20 per cent do not attend church services at all. There were no differences between males and females in these responses. However, the nonnudist visitors, who may be regarded as a bridge between nudists and the outside world, show a different pattern. Fully 50 per cent of these report regular church attendance (nine out of 18). Two other questions were asked dealing with religion: (*a*) "What was the religion observed in the home in which you grew up?" All major religious demonimations were represented, with the Catholic faith being reported by more than 40 per cent of the respondents. Only two nudists reported being brought up in a home with no religion. (*b*) "What is your own religion?" Altogether, 35 of the 90 people who answered this question indicated shifts from their childhood religious training. The most striking change was that 13 respondents (three female, 10 male) reported themselves as having no religion. While it may be that nudism is a reflection of the same kind of independence and thoughtfulness that frequently manifests itself in atheism and agnosticism, it must not be forgotten that there remain several extremely devout nudists who have been able to reconcile their religious convictions with their acceptance of nudism.

Is the decision to become a nudist determined by the fact that one's close friends are nudists? Fifteen of 36 female respondents said that none of their close friends was a nudist, and 15 of 54 males so indicated, while many others

indicated they had only one or a few close nudist friends. Still, 23 out of the total responding group of 90 reported that many or most of their close friends were nudists, compared to only one of 21 nonnudist visitors who answered this question. The problem here, of course, is one of interpretation. It is likely that all or at least most of the nudists who are close friends of the nudist sample were met by the respondents *after* the decision to become a nudist. (Note, in Table 2, that only one person indicated that he first came to a nudist camp because he was brought by a friend.) The lack of clarity in this matter is partly the fault of the questionnaire, and more adequate information will be obtained in further investigations.

Are there any underlying personality characteristics that differentiate nudists from nonnudists? It is likely that only intensive analytic interviews and carefully administered and studied projective tests can answer this question. An attempt was made, however, to detect gross differences by means of a paper-and-pencil checklist. All items were taken from the California F Scale and the Wesley Self-Administering Rigidity Scale (2). The checklist is reproduced in Table 3. While the F-scale items may be said to reflect social attitudes stemming from family and other early experiences, the Wesley scale refers more to habitual ways of operating in essentially nonsocial situations. It was hypothesized that there would be no difference between nudists and nonnudists in Wesley-scale responses (items 2, 4, 6, 7, 9, 11, 14, 16, 18, 19, 20) but that nudists would have lower F scores (all other items) than nonnudists. Scoring was according to the usual F-scale method. By use of the Kolmogorov-Smirnov two-sample test (1), no statistically significant differences on either scale emerged between the two groups (49 nonnudist students at the City College of New York, and 19 Sunshine Village nudists carefully matched with the control group for age, sex, and education).

Does this mean that there are really no differences in personality between nudists and nonnudists? Possibly, but not necessarily. The median age of the male nudists contacted at Sunshine Village was 37 years, and the median number of years in social nudism was 5 (range from a few months to 27 years); the corresponding figures for the female respondents were median age, 40 years; and median "nudist life," 6½ years (range from a few months to 16 years). Thus, for most nudists, their personalities were essentially formed *before* they became nudists.

Another possible explanation of the absence of significant differences has to do with the relative youth of the subsample of nudists. In order to have matching groups, nearly all of the respondents from Sunshine Village were of

TABLE 3

SAMPLE CHECK LIST

Please indicate the degree to which you agree or disagree with each of the following statements. After each statement you will find a row of numbers. *3* means strong agreement; *2* Means a moderate degree of agreement; *1* means slight agreement; *—1* means slight disagreement; *—2* means a moderate degree of disagreement; *—3* means strong disagreement. Underline the appropriate number for each statement.

1. Obedience and respect for authority are the most important virtues children should learn. 3 2 1 —1 —2 —3
2. I am often the last one to give up trying to do a thing. 3 2 1 —1 —2 —3
3. Science has carried man very far, but there are many important things than can never possibly be understood by the human mind. 3 2 1 —1 —2 —3
4. There is usually only one best way to solve most problems. 3 2 1 —1 —2 —3
5. Every person should have complete faith in some supernatural power whose decisions he obeys without question. 3 2 1 —1 —2 —3
6. I dislike to change my plans in the midst of an undertaking. 3 2 1 —1 —2 —3
7. I attend church regularly. 3 2 1 —1 —2 —3
8. A person who has bad manners, habits, and breeding can hardly expect to be liked and accepted by decent people. 3 2 1 —1 —2 —3
9. I would like a position which requires frequent change from one kind of task to another. 3 2 1 —1 —2 —3
10. One main trouble today is that people talk too much and work too little. 3 2 1 —1 —2 —3
11. I do not enjoy having to adapt myself to new and unusual situations. 3 2 1 —1 —2 —3
12. Young people sometimes get rebellious ideas, but as they grow up they ought to get over them and settle down. 3 2 1 —1 —2 —3
13. No sane, normal, decent person could ever think of hurting a close friend or relative. 3 2 1 —1 —2 —3
14. I am always on the lookout for different ways of doing something. 3 2 1 —1 —2 —3
15. What this country needs most, more than laws and political programs, is a few courageous, tireless, devoted leaders in whom the people can put their faith. 3 2 1 —1 —2 —3
16. I always finish tasks I start, even if they are not very important. 3 2 1 —1 —2 —3
17. In order for us to do good work, it is necessary that our bosses outline carefully what is to be done and exactly how to go about it. 3 2 1 —1 —2 —3
18. When I have undertaken a task, I find it difficult to set it aside, even for a short time. 3 2 1 —1 —2 —3
19. I like to surprise my friends by unexpected action. 3 2 1 —1 —2 —3
20. I find it difficult to change my way of doing something even though it may not be successful. 3 2 1 —1 —2 —3

college age, and very few of these had been nudists for more than two or three years. A group with more years of nudist experience might have shown different patterns of responses.

In any case, these findings do not suggest that the experience of nudism is enough to offset years of previous learning. (This is not to say that nudism makes *no* changes. Among changes reported by nudists were "less concern with appearance," "reduced anxiety," "more benevolence," and "less inhibition.") It may well be that the effect of nudism is blunted somewhat because most members of a nudist camp are in a nonnudist environment nine months of the year and five days out of seven during the summer. This "partial" nudism, combined with the fact that most nudists do not begin until adulthood, means that the present study, as well as most other studies of nudism, can only report what nudism is like in its present state, not what it ideally could be.

D. Discussion

It may be appropriate at this point to discuss briefly what has been referred to in previous pages as "the nudist way of life," "the principles of nudism," etc. No two nudists will agree in detail as to what the philosophy of nudism really is. It is apparent, indeed, that many members of Sunshine Village have never clearly thought out exactly what the principles of nudism are, or what nudism means to them. Several respondents who mentioned physical or emotional health seemed more to be mouthing expressions picked up in nudist magazines, etc., than to be reporting deep-felt convictions. (Needless to say, there are *some* "ideological nudists." But the emphasis, at least at Sunshine Village, is on fun, relaxation, and companionship.)

The official Credo of the American Sunbathing Association is as follows:

> We believe in the essential wholesomeness of the human body and all its functions.
>
> We believe that sunshine and fresh air in immediate contact with the entire body are basic factors in maintaining radiant health and happiness.
>
> We believe in creating beauty in all things and therefore encourage men and women by daily care and culture to create for themselves the body beautiful.
>
> We believe that the health of the nation will be immeasurably advanced through the wide acceptance of the principles and standards advocated by the American Sunbathing Association.
>
> We believe that presentation of the male and female figures in their entirety and completeness needs no apology or defense and that only in such an attitude of mind can we find true modesty.

The sex-body link is so strong in our culture, and the allegations of nudist promiscuity so widespread, that it is necessary to say a few words about sexual behavior at Sunshine Village. Of the 16 nudists who were asked if they were sexually stimulated the first time they came to the camp, four (all males) admitted they were. In each case the excitement quickly subsided, and never did it attain any degree of visibility. In fact, the occurrence of erections at the camp, at least in the open, is so rare as to be virtually nonexistent. Four factors seem to be involved in this apparent absence of arousal. First, and probably most important, the female body at a nudist camp is no longer a mysterious and tabooed object, and so ceases to be a sexually exciting one; this is not to say that the sex drive is reduced at a nudist camp, but only that the more basic components of the drive—the desire for physical intimacy with another person and the desire for genital stimulation—are not complicated by such culturally determined drives as the desire to uncover that which is forbidden. A second factor that may be important is that since sexual arousal is neither appropriate nor approved at a nudist camp, the nudists consciously avoid such arousal. Two respondents said that they *could* become aroused if they let themselves go, but that they are "careful." It is possible that this self-control plays a greater role than is generally admitted.

The third contributing factor may be that physical contact between the sexes is avoided at Sunshine Village. One seldom sees couples walking arm in arm, and the casual necking, etc., that one often encounters at most other resorts is strikingly absent here. This policy, as well as the camp's no-liquor-on-the-premises policy, has been criticized by some of the members as being puritanical and dictatorial. According to Marion, such measures are only temporary, and will not be necessary after nudism has gained wider public acceptance. The camp has no stone walls or gatekeepers, and it is felt that a visitor seeing nudists engaging in drunken or amorous actions would become convinced of the alleged linkage between nudism and orgiastic behavior.

A final explanation of the apparent absence of sexual excitement is related to the rather restrictive nature of the camp's mores. To avoid risking disapproval, a man with an erection might easily isolate himself, cover himself with a towel, or go into the swimming pool.

Criticism of the camp's "puritanical" policies was quite infrequent, as were the other complaints elicited in interviews and questionnaires. By far the most often expressed complaint of both males and females was that too many single men were admitted, and a few members stated that they had felt more comfortable at other camps that admitted only couples and families. Also, a few respondents expressed a desire for better facilities, or more planned activities,

but these wants were usually expressed as suggestions, not complaints. Only two members (a man and a wife, interviewed separately) complained that too many individuals with unattractive bodies were being admitted; the general impression I received was that persons of all shapes and sizes, as well as people with physical handicaps, were cordially welcomed.

One woman explicitly stated that she did not like the idea of Negroes being admitted to the camp, and it was fairly clear that she was not alone in these feelings. In interviews with most of the eight Negroes I met at the camp, I learned that they were definitely aware of these prejudices, but that they still found most of their conudists friendly and sympathetic. What prejudice there is usually takes the form of grumbling and snubbing, and no "incidents" have occurred. Resolutions introduced by cabin owners to ban or limit Negro members have so far always been defeated, and the most direct action the malcontents have taken is to post "For Sale" signs. No negative reactions to the handful of Orientals at the camp were observed or reported.

E. Conclusions

The bulk of this report, up to now, may have given the impression that differences between nudists and nonnudists are negligible and possibly nonexistent. This may turn out to be the case, but it is important to remember that the comparisons drawn have dealt almost exclusively with adult nudists strongly conditioned by nonnudist society. It would be especially instructive to study persons who had been nudists since earliest childhood. No adult members could be found who fit into this category. A number of children, however, were encountered who had experienced nudist life for as long as they could remember. Many of these were members of a children's nudist camp, purportedly the only one in the United States, which was then located within the confines of Sunshine Village (it has since been relocated). The members of the camp—all children of Sunshine Villagers—would spend the entire three- or four-week session living in tents, swimming, doing arts and crafts, and performing other typical children's-camp activities—except that the members usually did these things unclad. (Boys and girls slept in separate tents.) The age range was approximately 5 to 16. For the older children, there were occasional lectures and discussion groups on the nudist way of life. When the children's parents came to Sunshine Village on weekends, family activities partially supplanted camp activities, but the children still ate and slept in their own camp area. I was able to interview several of these children, in addition to a number of other children who visited Sunshine Village with their parents but were not involved in the children's camp. For the younger

children, nudism chiefly meant nude swimming, having fun without getting one's clothes dirty, being with friends, etc. For the older children, nudism seemed also to have a more serious meaning. These adolescent boys and girls seemed unusually alert and aware of the impact nudism had on their lives. With only one exception, they stated that they would like to be nudists even if their parents were not. In addition to the usual "fun" reasons, many of the teen-agers referred to the benefits in mental health and emotional stability. Many of them recognized that nudism was giving them a more "realistic" outlook toward sex than their nonnudist friends possessed. When with these friends, or out on dates, they could only feel sorry for people whose attitude toward the human body was not as healthy as their own. Unlike the responses of some of the adult camp members, these seemed completely genuine and spontaneous. Furthermore, the impression was inescapable that these children, taken as a group, were extraordinarily well-adjusted, happy, and thoughtful. Needless to say, these evaluations may be misleading, not only because of their subjectivity but also because these children frequently came from liberal, thoughtful families and might have developed nicely even if they had never set foot on a nudist camp. But since it was suggested above that nudist adults, as a group, are *not* more "liberal" than nonnudist adults, there is at least a strong possibility that nudism *per se* has a positive effect if its practice is begun early enough.

An indirect effect of nudism on children was also superficially examined. For a variety of reasons, many adult members of Sunshine Village do not tell their employers and outside friends about being nudists and insist that their children maintain this secrecy. Do these children develop conflicts, knowing that they have to conceal a way of life that is supposed to be so right and so open? It appears that no such conflicts arises. While a few children express regret that they cannot share their nudist experiences with their friends, they all seem to understand that at the present time such discretion is necessary. It is possible, of course, that more intensive interviewing procedures would have uncovered deeper conflicts. Clearly, much more work should be done in this area.

The preceding sentence is a particularly appropriate one with which to conclude this exploratory look at the social psychology of nudism. No claim is being made that the information recorded here is representative even of this one nudist camp, and certainly not of all nudist camps. Neither is it claimed that nudism is a panacea, nor that all people could or should become nudists. What *is* claimed is that nudism deserves far more consideration by behavioral scientists than it has yet received. The possible applications of projective

techniques, reference-group theory, etc., are innumerable. The practical implications of nudism as a method of therapy for sex deviants and others are both exciting to contemplate and amenable to research. In short, the most interesting thing about nudism seems to be not that it exists, but that so little has been done to learn what it has to teach.

REFERENCES

1. SIEGEL, S. Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill, 1956.
2. WESLEY, E. L. Perseverative behavior in a concept formation task as a function of manifest anxiety and rigidity. *J. Abn. & Soc. Psychol.*, 1953, 48, 129-134.

345 Riverside Drive
New York 25, New York

The Journal of Social Psychology, 1964, 64, 325-332.

PERSONAL AND SOCIAL CHARACTERISTICS OF ANTARCTIC VOLUNTEERS*[1]

U.S. Navy Medical Neuropsychiatric Research Unit, San Diego, California

E. K. Eric Gunderson

A. Introduction

The United States relies entirely upon volunteering to obtain personnel for its nuclear-submarine, space, and other programs which involve exposure to hazardous or unusual environments. Such dependence upon volunteering for manning vital national programs raises important questions concerning distinctive characteristics of volunteers and the motivational processes underlying volunteering behavior. In planning for and management of special assignment programs, careful study should be made of the types of men who will volunteer for them, not only in the initial but also in later phases of the program.

Research at the U. S. Naval School of Aviation Medicine has indicated that volunteers for hazardous duty (exposure to extreme cold or to cosmic radiation) and volunteers for astronaut training were superior in aptitude, performance, and motivation in the flight-training program compared with nonvolunteers (1, 2). In the accelerated Polaris Fleet Ballistic Missile submarine program, no decrement was observed in the above average aptitude level (Navy Basic Test Battery) of volunteers admitted to the program over an 18-month period (3).

In the present study an analysis is undertaken of personal and social characteristics of men who volunteered for a special type of hazardous duty—wintering-over at scientific stations in Antarctica.

Since 1957, the United States has maintained several year-round stations on the Antarctic continent to implement the Antarctic Research Program supported by the National Science Foundation and the U. S. Navy. Civilian scientists and technicians are directly engaged in research projects while Navy personnel provide necessary logistic support. Groups of Navy and scientific personnel live and work together in close association and inter-

* Received in the Editorial Office on April 16, 1963. Copyright, 1964, by The Journal Press.

[1] This study was conducted under Bureau of Medicine and Surgery, Department of the Navy, Research Task MR005.12-2004, Subtask 1. Opinions expressed are those of the author and are not to be construed as necessarily reflecting the official views or endorsement of the Navy Department.

dependence at these stations for approximately a year. Men are selected for Antarctic assignments primarily on the basis of competence in an occupational speciality. Since the station must be a completely self-sustaining community, a wide variety of scientific, technical, and military occupations, such as glaciologist, ionospheric physicist, meteorologist, electronics technician, physician, mechanic, and cook, are represented. All stations are completely isolated from each other and the outside world except for intermittent radio communication for from seven to nine months, and there is no possible way for members to leave the station nor for help to reach them if needed during this period.

Information concerning the Antarctic research program, including procedures for volunteering, is widely disseminated throughout the scientific community and the Navy. Volunteering procedures are basically similar: civilians send applications with accompanying references from superiors or professors to the National Science Foundation; Navy personnel apply to their Commanding Officers, who forward pertinent information with a personal recommendation to the Bureau of Naval Personnel. All persons, military and civilian, who meet the minimum requirements are given psychiatric examinations at Navy screening centers to evaluate psychiatric fitness.

B. Method

1. *Problem*

The problems to be investigated may be stated in terms of the following specific questions:

1. How do Navy volunteers for Antarctic duty differ from the general Navy population?
2. How do Navy and civilian volunteer groups differ from the general U. S. male population?
3. How do the Navy and civilian volunteer groups differ from each other?
4. How do volunteers for the earlier, and presumably more glamorous, expeditions differ from those for later, more routine, expeditions?

Only partial answers can be given to Questions 1 and 2 from data of the present study; more complete data are available to evaluate Questions 3 and 4.

2. *Procedure*

Military and civilian volunteers for four Antarctic expeditions—those ending in 1957, 1958, 1960, and 1961—were subjects for the study. Volunteers for the 1957 and 1958 expeditions were combined into one sample, as were volunteers for the 1960 and 1961 expeditions, in order

to provide adequate civilian samples for comparison over the two time periods. A total of 1207 Antarctic volunteers was studied. Twelve per cent of the Navy personnel were officers and 88 per cent were enlisted men.

As a part of the routine psychiatric screening program conducted by the Neuropsychiatric Division, Bureau of Medicine and Surgery of the Navy, each applicant filled out the Standard Psychodiagnostic Record Booklet (Personal History).[2] The Booklet contains 16 pages of questions pertaining to developmental history, including birthplace and residence, religion and worship, parental and family background, educational achievements and school adjustment, sports and social interests, medical history and symptoms, and occupational and military experience. Responses to multiple-choice and factual items were coded by a trained clerk, checked independently for accuracy, and punched on IBM cards for machine sorting and tabulating. Responses to open-end items were omitted from the present analysis. Percentage distributions for both volunteer groups (military and civilian) and both time periods (1957-1958 and 1960-1961) were computed over all items and response categories. All percentage differences to be reported in the presentation of results are significant beyond the .05 level of confidence by χ^2 test.

Comparison of Navy Antarctic volunteers with a general Navy population was made possible through personal-history data collected on a large sample of Navy recruits by Dr. John Plag of the Navy Medical Neuropsychiatric Research Unit.

Statistical data on U. S. males were obtained from "Statistical Abstract of the United States, 1959" (U. S. Government Printing Office).

C. Results

1. *Navy Antarctic Volunteers Compared with All Navy*

Navy volunteers from all four expeditions ($N = 972$) were compared on a number of characteristics with 11,009 Navy recruits studied by Plag.[3] Unless otherwise noted, items pertain to pre-enlistment history or status.

A larger percentage of Navy volunteers (9 per cent) were born in New England compared with Navy men generally (6 per cent). The middle western United States (Illinois, Indiana, Michigan, Missouri, Ohio, Wisconsin) was underrepresented among Navy Antarctic volunteers (17 per cent *vs.* 21 per cent all Navy). Catholics are underrepresented among Navy

[2] *The Standard Psychodiagnostic Record Booklet* (Personal History) used in the study was published by the Medicopsychological Research Corporation.

[3] Plag, J. A. Personal communication. February, 1963.

volunteers (23 per cent *vs.* 28 per cent all Navy) while Protestants are overrepresented. Antarctic volunteers report more parents divorced or separated (22 per cent) than all Navy (19 per cent). This result, as it reflected current status, may be due to the age difference between the two groups. Navy men generally were suspended from school much more frequently (28 per cent) than Antarctic volunteers (18 per cent). Only 4 per cent of Navy recruits had had any academic work beyond high school prior to enlistment as compared with 11 per cent of Antarctic enlisted volunteers (officers excluded). Finally, a sample of 483 Navy enlisted volunteers for whom GCT (Navy Basic Test Battery) scores were available had a mean score of 55, a half standard deviation above the overall Navy mean of 50.

The above results support the proposition that Navy volunteers for Antarctic duty were superior in intellectual ability, school adjustment (number of suspensions), and academic attainments (college experience) to Navy personnel generally.

2. *Navy and Civilian Antarctic Volunteers Compared with All U. S. Males*

Both Navy and civilian Antarctic volunteers differ from all U. S. males (age 20-34) in marital status. As shown in Table 1, many more Antarctic volunteers, military and civilian, are single than American males generally. Military volunteers, but not civilians, have a higher rate of divorce than U. S. males within the same age range.

TABLE 1
MARITAL STATUS OF ANTARCTIC VOLUNTEERS AND U. S. MALES

Marital status	Military volunteers	Civilian volunteers	U. S. Males age 20-34[a]
Single	53%	57%	28%
Married	40	39	69
Widowed	0	0	0
Divorced	6	2	2
Separated	1	1	1

[a] Figures obtained from Tables 39 and 41, "Statistical Abstract of the United States, 1959."

A larger proportion of Antarctic volunteers, both military and civilian, were reared in New England (11 per cent *vs.* 6 per cent for all U. S. males). The western part of the United States was disproportionately represented among military volunteers, while the north central region was underrepresented. The southern area of the United States is grossly underrepresented among civilian volunteers (14 per cent *vs.* 29 per cent). Protestants are overrepresented among military volunteers, while Catholics are underrepre-

sented among civilians. Civilian volunteers more frequently have no religious preference as compared with U. S males generally (11 per cent *vs.* 4 per cent). Military volunteers are very close to U. S. males (age 18-44)[4] in the proportion having some college experience (20 per cent *vs.* 21 per cent), while 89 per cent of the civilian scientists and technicians had some college training and 68 per cent were college graduates.

It is apparent from the above data that Navy Antarctic volunteers have had less success in establishing or maintaining households than U. S. males generally. The regional, religious, and other differences demonstrated with reference to U. S. males generally suggest that Antarctic volunteers are relatively heterogeneous in demographic and personal-history characteristics. It seems clear that Antarctic groups cannot be considered typical cross sections of American male culture.

3. *Differences Between Navy and Civilian Antarctic Volunteers*

Military volunteers differed significantly ($p \leqslant .05$) from civilian volunteers for *both* time periods on 42 of the 84 characteristics studied.[5] These consistent differences between the two groups are summarized under the topical headings below.

TABLE 2
DIFFERENCES IN AGE BETWEEN NAVY AND CIVILIAN VOLUNTEERS FOR TWO TIME PERIODS

Expedition	Military	Civilian
1957-1958		
Mean age	25.8	31.4
Below age 24	46%	17%
1960-1961		
Mean age	27.1	28.8
Below age 24	36%	22%

a. Age. Navy volunteers were younger than civilian volunteers in both time periods, although the age difference diminished in the later expeditions (Table 2).

b. Occupational experience. Military personnel had significantly more experience in their occupational specialties than did civilians. This is largely explained by the fact that a number of participating civilian scientists had not completed their graduate training, or had only recently received degrees.

[4] Two age groups, 18-25 and 26-44, were combined for this estimate; percentage with college experience was 21 for both groups.

[5] Tables of distributions and χ^2 for all items are available upon request from the author.

The difference in occupational experience was more pronounced for the second time period (Table 3).

c. Birthplace and residence. More civilians were foreign-born; the proportion was smaller, however, in the later group studied. Navy volunteers more typically were reared in the southern or rural United States.

d. Religion. Although the percentage differences were small (1 per cent for military versus 4 per cent for civilian), significantly more civilians expressed a preference for the Hebrew religion in both time periods.

e. Parental and family background. Differences in age, birthplace, citizenship, and educational and occupational levels of the parents paralleled those

TABLE 3
DIFFERENCES IN OCCUPATIONAL EXPERIENCE BETWEEN NAVY AND CIVILIAN VOLUNTEERS (PER CENT WITH MORE THAN FIVE YEARS IN CURRENT OCCUPATION)

Expedition	Military	Civilian
1957-1958	45%	32%
1960-1961	56%	24%

for the subjects in the two groups. Parents of military volunteers married at an earlier age than did those of civilians, were divorced or separated more often, and reared larger families. Civilian volunteers more frequently reported being influenced in their development by persons outside the immediate family, such as teachers or ministers. Wives of civilian volunteers more often had gone to college and had worked in professional positions before marriage.

f. Education. The sharpest way to illustrate the considerable difference between military and civilian personnel in amount of education is to note that 89 per cent of the civilians, as compared with 20 per cent of the military (officers included), had had some sort of collegiate experience. This is a reflection of the higher academic requirements for most of the technical and professional specialties required for research in the Antarctic and represented in these groups. The difference persists over the second time period.

g. School achievements and adjustment. Civilian volunteers reported earning academic honors or scholarships, excellent high-school academic records, and science as their best subject in high school more frequently than did military volunteers. Military volunteers played hookey and had been expelled from school more frequently.

The general attitude toward schools and educational experience is highly consistent with the total years of schooling attained by the two groups.

h. Sports and other interests. While military volunteers had typically engaged in much hunting and fishing as youths, civilian volunteers had preferred swimming, tennis, or golf more frequently than had military volunteers. Civilian volunteers more often rated themselves superior or very superior on traits of agility, endurance, and courage as compared with military volunteers. Civilians engaged in hobbies, read books and magazines, participated in clubs, and held club offices more frequently than did military volunteers.

4. *Comparison of Volunteers from Earlier and Later Expeditions*

Significant differences between earlier and later expeditions on personal-history characteristics of military personnel were found for nine of the 82 items studied. Items differentiating earlier from later civilian volunteers were few and appeared to be random.

The increases in age and occupational experience of the military personnel in the later expeditions is of some practical importance since presumably such changes would be paralleled by increases in maturity and competence. Other differences between military volunteer groups over the two time periods seemed of minor importance.

D. Conclusions

The following conclusions were drawn from the study:

1. Navy Antarctic volunteers (enlisted) were superior to Navy enlisted personnel generally in intellectual ability and past school adjustment and achievement.

2. Both Navy and civilian volunteers differed from the general U. S. male population in marital status, area of childhood residence, and religious identification. Navy volunteers exceeded the divorce rate of U. S. males of comparable age. A much higher proportion of civilian volunteers have had college experience than U. S. males generally.

3. Navy and civilian volunteers differed significantly on a large number of personal and social characteristics, of which education, age, and occupational experience were among the most pronounced. Navy volunteers were younger but at the same time more experienced in their occupational specialties than civilian volunteers. Civilians had superior school records and had attended college much more frequently.

4. Military volunteers for later expeditions were somewhat older and more experienced in their jobs than those for earlier expeditions. Other than these important differences, only minor changes appeared in the military

volunteer population over time. No significant changes in the civilian volunteer population were inferred.

The study indicates that a potentially hazardous and difficult duty assignment initially attracted superior Navy applicants. Furthermore, after the novelty and glamor of the program had presumably diminished, the quality of volunteers remained high and probably improved. These findings are reassuring in view of the complete reliance upon volunteering in a number of vital national programs, such as those for nuclear submarines and space.

The study suggests that considerable heterogeneity in cultural values, attitudes, and social behaviors may be expected in Antarctic groups. Also, the wide differences between Navy and civilian volunteers on a variety of personal and social characteristics suggest that specific motivations for volunteering may be different for the two populations.

References

1. Ambler, R. K., Berkshire, J. R., & O'Connor, W. F. The Identification of Potential Astronauts. Research Rep. 33, Naval School of Aviation Medicine, Pensacola, Fla., 1961.
2. Bair, J. T., & Gallagher, T. J. Volunteering for extra-hazardous duty. *J. Appl. Psychol.*, 1960, **44**, 329-331.
3. Bureau of Naval Personnel. SSB(N) Weapons System Personnel Statistics (staff paper). Washington, D. C.: Bureau of Naval Personnel, 1962.

Special Environments Branch
U. S. Navy Medical Neuropsychiatric Research Unit
San Diego 52, California

The Journal of Social Psychology, 1964, 64, 333-338.

EFFECTS OF CANDIDATE SUPPORT AND ELECTION RESULTS UPON ATTITUDES TO THE PRESIDENCY*

Department of Psychology, University of Wisconsin

E. Mavis Hetherington and Mary Carlson

A. Introduction

This study investigates changes in attitudes toward the office of the presidency as they are related to the candidate supported and the outcome of the presidential election.

An individual who holds an office of traditional leadership is endowed by the public with attributes distinct from his actual capacities but associated with the office he holds (6). Thus there exists an image of the president of the United States which is relatively stable and which is independent of the character of the man holding the office of the presidency.

In a presidential election when an individual holding an opinion is exposed to authoritative evidence of a contrary opinion, such as the victory of the opposition candidate, cognitive dissonance and a need to reduce the dissonance may result (2). Several experimental studies (3, 4, 7) have indicated that in the face of contrary opinions an individual may seek to reduce the dissonance he experiences by changing his opinions. One way an individual who has supported a losing candidate in a presidential election may seek to reduce his cognitive dissonance is by devaluing the office of the presidency. If the presidency is regarded less favorably there is less dissonance involved in the unsupported candidate holding this office. The individual who has supported a winning candidate may shift his attitudes toward the presidency in an increasingly favorable direction. However, because of the stability of the presidential image these attitude shifts may be present immediately after the election but would be expected to dissipate gradually and return to pre-election norms.

The present study investigated changes in attitudes toward the office of the presidency as they were related to the candidate supported in the 1960 presidential election and the Kennedy victory.

* Received in the Editorial Office on April 17, 1963. Copyright, 1964, by The Journal Press.

B. Method

1. *Subjects*

Ss were 36 students in introductory-psychology classes at the University of Wisconsin. Eighteen *Ss* were Kennedy supporters and 18 *Ss* were Nixon supporters. The age and sex distributions in the two groups were the same. *Ss* had no foreknowledge of the topic of the experiment.

2. *Measures*

A questionnaire was constructed to measure attitudes toward the office of the presidency. Two different aspects of the office were considered, the "powers" of the office and the "image" of any man holding that office. Fifty statements relevant to these presidential dimentions were taken from books on the presidency (1, 5, 1957) and were submitted to three University of Wisconsin political scientists for evaluation. The political scientists were asked to check whether an item was relevant to presidential power, the presidential image, or was not related to either of these dimensions. The final questionnaire consisted of 15 statements unanimously checked as being relevant to the presidential image, 15 statements unanimously checked as being relevant to presidential power, and 15 buffer items which were irrelevant to the office of the presidency but were about other national political issues. The buffer questions were included in an attempt to mask the purpose of the questionnaire and to minimize the transfer from test to retest results. These 45 items were randomly ordered on the questionnaire. The test-retest reliability of this questionnaire administered to 50 college students in a nonelection year, with a four-week intertest interval, was .89.

3. *Procedure*

The questionnaire was administered to the 36 experimental *Ss* with instructions to respond to each statement while thinking of the presidency as the national office and not in terms of any particular president. *Ss* rated each statement on a five-point Likert scale ranging from "strongly agree" to "strongly disagree."

Ss were given the questionnaire for the first time five days before the election. At this time they were also asked to state which presidential candidate they were supporting. They were given the questionnaire a second time two days after the election and a third time three weeks after the election. The questionnaires were scored, omitting the buffer items. Responses were given a weight of 5 for "strongly agree," 4 for "agree," 3 for "undecided," 2 for "disagree," and 1 for "strongly disagree." Scores were summed and

mean ratings obtained for the power statements, the image statements, and the total of all statements about the office of the presidency. Analyses of variance for a repeated-measure design were run separately on the total statements about the presidency, the power statements, and the image statements.

C. Results

The results of the analysis of variance for a repeated-measure design for total attitude toward the presidency are presented in Table 1. The main effects due to groups or test administrations were not significant. The interaction of groups by test administration was significant at the .01 level. This interaction is most clearly understood by reference to Figure 1.

Duncan multiple-range tests were computed for the mean scores of the three test administrations of Nixon and Kennedy supporters. The mean score of the second test administration for Nixon supporters is significantly less than that of their first test administration or the second administration for Kennedy supporters ($p < .05$).

The first administration for Kennedy supporters is significantly less than their second or third administrations ($p < .05$). The mean score on the third administration is higher for Kennedy than Nixon supporters ($p < .05$).

The results of separate analyses of variance for presidential power and presidential image are presented in Table 2 and Table 3. Again we find no significant main effects but a significant interaction of test administrations by groups in both the power and the image analyses. The mean scores for presidential power for the three test administrations by Kennedy and Nixon supporters are presented in Figure 2. A Duncan multiple-range test shows significant differences ($p < .05$) between the first and the third test administrations for Kennedy supporters, between the second administrations of Kennedy and Nixon supporters, and between the third administrations for Kennedy and Nixon supporters.

A Duncan multiple-range test of the means for presidential-image items indicates that the second test administration for Nixon supporters is significantly different ($p < .05$) from the first and the third Nixon-supporter test administrations and the second Kennedy-supporter test administration (Figure 3).

D. Discussion

The results of this experiment show that attitudes toward the presidency do change as a result of the candidate supported and the outcome of the presidential election. As was predicted, the attitudes of Kennedy and Nixon

TABLE 1
ANALYSIS OF VARIANCE OF ENTIRE QUESTIONNAIRE

Source of variation	*df*	*SS*	*MS*	*F*	*p*
Groups	1	670	670	1.62	
Pooled *Ss*/ groups	34	14035	412.70	22.28	< .01
Conditions	2	81	40.50	1.28	
Conditions × groups	2	709	354.50	11.24	< .01
Residual	68	2132	31.52	—	

TABLE 2
ANALYSIS OF VARIANCE OF STATEMENTS ON POWER

Source of variation	*df*	*SS*	*MS*	*F*	*p*
Groups	1	243	243	2.44	
Pooled *Ss*/ groups	34	3376	99.20	4.31	< .01
Conditions	2	21	10.50	.45	
Conditions × groups	2	230	115	5.00	< .01
Residual	68	1569	23	—	

TABLE 3
ANALYSIS OF VARIANCE OF STATEMENTS ON IMAGE

Source of variation	*df*	*SS*	*MS*	*F*	*p*
Groups	1	110	110	.79	
Pooled *Ss*/ groups	34	4720	138.20	5.50	< .01
Conditions	2	65	32.50	1.31	
Conditions × groups	2	250	125	5.04	< .01
Residual	68	1688	24.8	—	

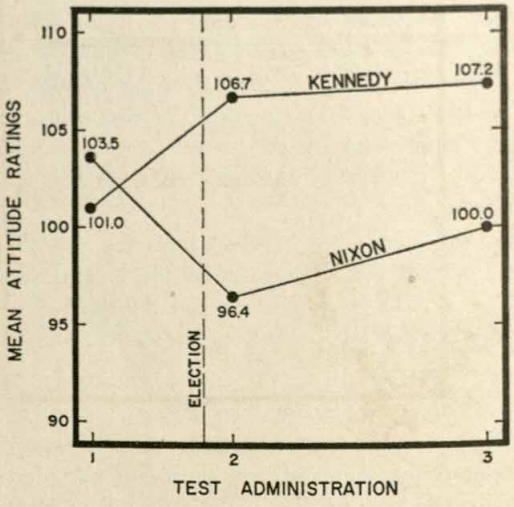

FIGURE 1
MEAN SCORES OF ATTITUDES TOWARD THE PRESIDENCY

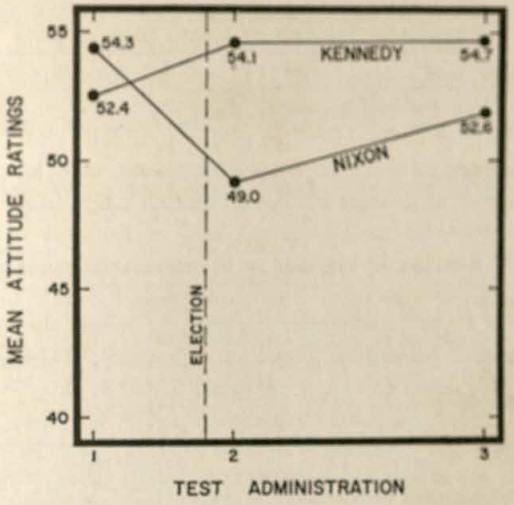

FIGURE 2
MEAN SCORES OF PRESIDENTIAL POWER

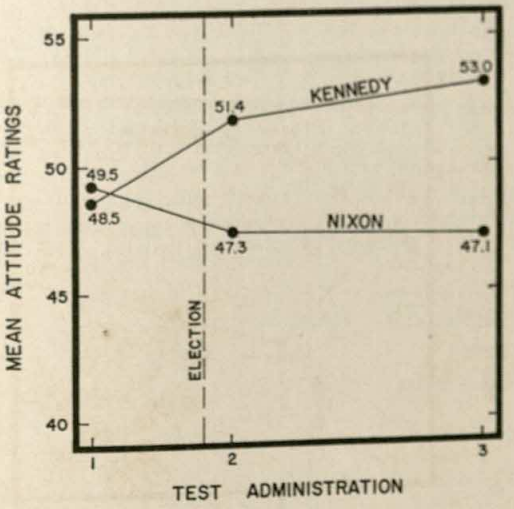

FIGURE 3
MEAN SCORES OF PRESIDENTIAL IMAGE

supporters toward the presidency, presidential power, and presidential image were significantly different in the test administration immediately following the election. Kennedy supporters tended to evaluate the office of the presidency more favorably than did Nixon supporters.

The prediction that these shifts in attitude would be temporary only and that by the final test administration no differences would be found between Kennedy and Nixon supporters is not confirmed. A significant difference between the two groups on the third administration is found on the combined attitudes toward the presidency and attitudes toward presidential power, but not on presidential image. Although there is a trend for attitudes of Nixon supporters to be leveling off or returning to pre-election norms, the attitudes of Kennedy supporters show no such trend. This may be due to the fact that Kennedy's victory was marginal and that three weeks after the election recounts were still going on in some areas. A later test administration might have yielded the predicted return of attitudes of both groups to pre-election norms. An alternative explanation would be that the presidential image is not as stable and independent of the character of the man holding the office as has been proposed.

References

1. Burns, J. M., & Peltason, J. W. Government by the People. Englewood, N. J.: Prentice-Hall, 1957.
2. Festinger, L. A Theory of Cognitive Dissonance. Evanston: Row, Peterson, 1957.
3. Hovland, C. Reconciling conflicting results derived from experimental and survey studies of attitude change. *Amer. Psychologist,* 1959, **14**, 8-17.
4. Hovland, C., & Pritzker, H. Extent of opinion change as a function of amount of change advocated. *J. Abn. & Soc. Psychol.,* 1957, **54**, 257-261.
5. Lazarsfeld, P. F., Berelson, B., & Gaudet, H. The People's Choice. New York: Duell, Sloan & Pearce, 1944.
6. Young, K. Social Psychology. New York: Crofts, 1956.
7. Zimbardo, P. Involvement and communication discrepancy as determinants of opinion change. Unpublished Doctoral dissertation, Yale University, New Haven, 1959.

Department of Psychology
University of Wisconsin
600 N. Park Street
Madison 6, Wisconsin

The Journal of Social Psychology, 1964, 64, 339-353.

A FACTORIAL STUDY OF SIGHTED PEOPLE'S ATTITUDES TOWARD BLINDNESS* [1]

Columbia University School of Social Work; and Graduate School of Social Work, University of Pittsburgh

MARTIN WHITEMAN AND IRVING F. LUKOFF

A. INTRODUCTION

By now it is a truism that behavior or adjustment is dependent on the personality of the individual and on the situation in which he finds himself. However, in the area of physical handicap, this dual emphasis is frequently overlooked. In its stead may arise a sharp focus upon either the individual or the environment, a focus accompanied by opposing ideologies. The latter may be manifested in different theoretical commitments (e.g., a clinical *versus* a social-psychological approach). They may be reflected in opposing research strategies (e.g., the study of handicapped and nonhandicapped groups in terms of differentiating personality syndromes, as contrasted with their study in terms of differential opportunities, public attitudes, or role expectations). And finally, these contrasting emphases upon individual and situational factors may be manifested in the type of remedial program favored (e.g., individual therapy or counseling *versus* social and educational programs aimed at changing community attitudes or opportunity structure).

Compared to the personality focus, there are relatively few empirical studies exploring the psychologically relevant aspects of a blind person's environment. But if the emphasis on person-in-situation is correct, an intensive study of this environment may be as important as the intensive study of the individual. The attitudes of the sighted comprise a significant segment of the blind person's environment. Indeed, writers on blindness, such as Cutsforth (4), Chevigny and Braverman (2), and Gowman (6), are particularly vehement in ascribing individual maladjustment to devaluating societal stereotypes of the sighted.

Besides the importance of the problem and the dearth of empirical studies,

* Received in the Editorial Office on April 22, 1963. Copyright, 1964, by The Journal Press.

[1] This paper is based on a research project sponsored by the office of Vocational Rehabilitation, Department of Health, Education and Welfare (Project No. RD 346) and The Seeing Eye, Inc., Morristown, New Jersey. The data were gathered and analyzed when the authors were at the Research Center, the New York School of Social Work, Columbia University.

this research is further motivated by methodological considerations. Research on attitudes of sighted people toward blindness have in the main studied the prevalence of certain opinions and beliefs about blind people in various sighted populations (10, 12, 13, 14). Thus Schaefer (13) studied the evaluations of superintendents of schools for the blind with reference to the traits of the blind. She found that dependence, reticence, and cheerfulness were considered the chief characteristics of blind persons. An exception to this prevalence type of study has been the emphasis of Cowen *et al.* (3) upon the measurement of individual differences in attitudes toward blindness, involving the construction of a unitary attitudes-toward-blindness scale. But a focus on the prevalence of discrete opinions or on the measurement of a unitary attitudinal measure may overlook the problem of attitudinal organization; i.e., how attitudinal components are related to one another and how these relationships vary or remain constant in different populations.

Furthermore, a component approach may have implications for studies of attitudes toward blindness which push beyond the construction of attitudinal indicators. For example, attitudinal components A and B may have different personality determinants, or may require quite different procedures for attitudinal change, or may have differential effects on future behavior. These differential problems may be overlooked should a "generalized attitude" model be the sole one followed.

B. Method

1. *Subjects*

The subjects were the same 65 first-year students of the New York School of Social Work and 58 Hunter College evening students described in a previous paper (16). In that study, the analysis of responses of the two groups to specific items revealed that the Hunter group shows a readier acceptance of the idea that blind people have unique abilities or unique emotional experiences, possesses less factual information about blindness, and has had less contact with blind people than the other group has had. The Hunter group also shows a more protective orientation toward the blind, which is exhibited on both the public-policy level (e.g., stronger belief that sheltered workshops can solve the employment problems of the blind) and on the interpersonal level (manifested in a greater wariness of hurting a blind person's feelings and a greater readiness to overlook a blind person's faults because of his blindness).

2. *Questionnaire and Indices*

Questionnaires dealing with attitudes toward blindness were administered to both groups. Because of temporal limitation, the questionnaire given to the social-work students was abridged. For each questionnaire, a number of dimensions were postulated and items were specifically constructed to tap these dimensions. Particularly in the large Hunter College questionnaire, an attempt was made to diversify the item format to minimize response set and lend support to clusters or factors cutting across indices of similar content but differing in mode of presentation. Thus items were constructed with an agree-disagree format, in terms of rating scales, in sentence-completion form, in terms of comparison with other physical handicaps, and in terms of required estimates of the number of blind people having various feelings or attributes, as well as estimates of the intensity of such feelings. An attempt was made by means of item-selecting techniques (Likert scaling or use of item intercorrelations) to increase the reliability of indices corresponding to the hypothecated dimensions. A listing of these indices is presented in Table 1, which also reports reliabilities, the presumed meaning of a high score on an index, and sample items.[2] It should be pointed out that the same name has been given to the pairs of Hunter and Social Work indices on the basis of similarity rather than identity of item content. Generally there are less items for a Social Work index than its Hunter counterpart and, following the Hunter administration, there were modifications of some items in their Social Work form to avoid skewed item distributions.

On an *a priori* basis, most of the attitudinal indices can be grouped under three headings. The first heading deals with the perceived attributes of blind people, which may mean viewing blind people with respect to their emotional state (e.g., indices 1 and 2) or in terms of their general effectiveness of functioning (e.g., indices 4, 5, and 6).

A second set of indices deals with the sighted person's acceptance or rejection of blindness. Whereas in the first area the emphasis is upon the degree to which blind *people* are judged as happy or effective, in the second area the stress is upon the degree to which blindness itself is evaluated negatively or nonnegatively, as in indices 7, 8, and 10.

---

[2] A listing of the items included under each index, the scoring procedures, and the unrotated centroid matrices of the factor analyses have been deposited as Document number 8002 with the ADI Auxiliary Publications Project, Photoduplication Service, Library of Congress, Washington 25, D. C. A copy may be secured by citing the Document number and by remitting $2.50 for photoprints, or $1.75 for 35-mm microfilm. Advance payment is required. Make checks or money orders payable to: Chief, Photoduplication Service, Library of Congress.

TABLE 1

INDICES OF ATTITUDES TOWARD BLINDNESS

Index	Reliability (Corrected split-half) and no. of items: Hunter students ($N = 58$)	Reliability (Corrected split-half) and no. of items: Social work students ($N = 65$)	Presumed meaning of high score	Sample items or comment on index
1. Emotional attributes	.90 (19)	.60 (12)	Nonstereotyped, nondevaluating appraisal of blind people's emotional attributes	"Some say it is natural for blind people to feel sorry for themselves. As for how much they feel sorry for themselves, I imagine it is (check one) very much, a moderate amount, slight, none."
2. Individualized attributes	.64 (7)	No index	Denial that all or many blind people display common attributes, whether positive or negative.	All items are of the form; "Some say blind people have such-and-such attributes. Of blind people, I would imagine this is true for (check one) all, many, a moderate amount, few, or none."
3. Intensity attributes	.72 (8)	No index	Denial of statements attributing unusually strong negative emotions to blind people	Items ask for an estimate of the *degree* to which blind people feel touchy, sorry for themselves, etc.
4. Competence	.73 (6)	.58 (8)	Perception of blind people as relatively competent and independent, in adjusting to environment	"A blind person can do most anything anyone else can do." (Check one)—strongly agree, moderately agree, etc.
5. Role adequacy	.73 (7)	No index	Blind people perceived as capable of fulfilling a number of different social roles	Comparison of blind with those "paralyzed in lower limbs" and those with "heart disease" with respect to adequate performance in such roles as "close friend," "work associate," "congressman," "teacher."

TABLE 1 (*continued*)

Index	Reliability (Corrected split-half) and no. of items: Hunter students	Reliability (Corrected split-half) and no. of items: Social work students	Presumed meaning of high score	Sample items or comment on index
6. Activity adequacy	.74 (6)	No index	A blind person perceived as capable of suitable interaction with sighted in a number of different situations or activities.	Similar to "role adequacy" but emphasis more on specific situations or activities in which there is face-to-face interaction with sighted; e.g., "as a classmate who would come home with you to do homework together."
7. Conception of blindness	.72 (4)	.57 (6)	Avoidance of view that blindness is extremely frustrating or disabling	"There aren't many things worse than being blind." Check one—strongly agree, moderately agree, etc.
8. Evaluation of blindness	.81 (5)	No index	Avoidance of devaluating adjectives in describing blindness	Semantic differential, with "blindness" as object to be rated along evaluative dimensions.
9. Sentence completion	.68 (4)	No index	No emphasis by respondent of pity, maladjustment, unhappiness, in describing reactions to blindness or to blind people	(1) When I see a blind person I .. (2) To be blind is .. (3) If I became blind I ..... (4) If I had a blind child I .....
10. Goal attainment	.79 (6)	No index	Blind people perceived as capable of attaining desirable social goals	Blindness is compared to "paralysis of lower limbs" or "heart disease" insofar as it interferes with attainment of such goals as "an interesting social life," a "happy marriage."
11. Personal interaction	.76 (5)	.57 (4)	Expressed readiness for face-to-face contact with blind people	"It would be easier to spend an evening with a sighted person than to spend an evening with a person who is blind." Check one—strongly agree, moderately agree, moderately disagree, strongly disagree.

TABLE 1 (*continued*)

Index	Reliability (Corrected split-half) and no. of items: Hunter students	Reliability (Corrected split-half) and no. of items: Social work students	Presumed meaning of high score	Sample items or comment on index
12. Community integration	.69 (6)	.67 (4)	Readiness to have blind people integrated into general community facilities and activities	"It is best for blind persons to have their own agencies equipped to deal with their special problems." Check one—strongly agree, moderately agree, etc.
13. Nonprotectiveness	.75 (6)	.52 (5)	Avoidance of protective, sensitive type of interaction with blind people	"I think if a blind person becomes angry with people over little things it should be overlooked because of his blindness." Check one—strongly agree, moderately agree, etc.
14. Pity avoidance	No reliability computed (3)	No index	Denial of strong pitying or sympathetic attitude toward blind people	"I have sympathy for blind people. As for the degree of sympathy I would say it is (check one) very great, moderate, slight, none."
15. Generalized attitude	.84 (39)	.87 (39)	A general, nonstereotyped, nondevaluating attitude toward blindness	Items selected by Likert scaling irrespective of the index for which it was originally constructed.
16. Contact with blindness	No reliability computed (3)	No reliability computed (3)	Personal acquaintance with blind people	Items tapping whether respondent knows, is closely acquainted, or works with blind people.
17. Information about blindness	.70 (5)	No reliability computed (3)	Factual knowledge of blindness	Questions about prevalence of blind people, proportion reading braille, predominent mode of travel.

A third area involves indices dealing with the attitudes of respondents toward the integration of blind persons into sighted people's activities—whether such integration is reflected in expressed readiness for interaction with blind people in face-to-face situations (index 11) or in wider social

settings involving jobs or recreational activities or agency programs (index 12). We also felt it interesting to explore the quality of interaction, whether sighted people differ in the degree to which they are protective of or sensitive toward blind people (index 13).

Besides these three attitudinal areas, the Information and Contact indices (indices 16 and 17) were constructed to tap respectively degree of factual knowledge about blindness and the degree of contact the respondent has had with blind people.

3. *Statistical Treatment*

Centroid factor analyses were performed on both batteries following the procedures outlined by Fruchter (5). Factoring was continued until applications of multiple criteria (Tucker's phi, Combs' criterion, and Humphrey's criterion) pointed to the unreliability of further factors. The completeness of factorization is also indicated by Harman's criterion (8, p. 208) since the total calculated communalities account for 100 per cent and 97 per cent respectively of the original total communalities of the Hunter and the Social Work batteries. Orthogonal rotations of the centroid axes were performed graphically. The intercorrelations among indices were computed as Spearman rank-order coefficients and the factor analyses were performed on those rhos rather than on Pearson *r*'s. However, a recalculation of 40 rhos as Pearson *r*'s revealed, as would be expected, a close correspondence between the two sets of coefficients (rho = .90, median difference = .03), so that the results in all probability would be essentially unchanged if Pearson *r*'s had been used.

C. Results

The intercorrelation among the attitudinal indices and the factor loadings after rotation for the Hunter sample are presented in Tables 2 and 3. Corresponding tables for the Social Work group are shown in Tables 4 and 5.

With regard to the identification of the factors, it was thought advisable to turn first to the results of the factor analysis of the Hunter College battery (see Table 3) since the number of scales and their reliability were generally greater than in the case of the Social Work battery.

The first factor, which might be called Personal Attributes, seems to differentiate respondents according to the degree to which they have a negative view of the emotional life and general competence of blind people. The highest loadings are on Intensity Attributes, Emotional Attributes, Competence and Individualized Attributes—all dealing with the perceived personal characteristics of blind people.

The second factor seems to deal with attitudes toward the social functioning of blind people. This factor, Social Attributes, correlates most strongly with indices referring to readiness of the sighted person for interaction with the blind or to the interpersonal competence of blind people (e.g., Personal Interaction, Community Integration, Activity Adequacy, Role Adequacy).

A third factor, Evaluation of Blindness, seems to deal with the degree to

TABLE 2
INTERCORRELATIONS (RHOS) AMONG INDICES OF ATTITUDES TOWARD BLINDNESS (Hunter College sample)

Index	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Emotional attributes	.65	.60	.62	.36	.27	.45	.56	.12	.49	.45	.27	.36	.12	.58	.19	.25
2. Individualized attributes		.40	.46	.38	.31	.39	.29	.35	.38	.41	.43	.44	.45	.53	.12	.13
3. Intensity attributes			.54	.35	.17	.24	.32	.23	.47	.23	.28	.30	.57	.44	.15	.14
4. Competence				.45	.36	.41	.20	.23	.43	.38	.37	.40	.34	.47	.23	.05
5. Role adequacy					.62	.31	.31	.22	.59	.36	.42	.32	.33	.41	.15	−.01
6. Activity adequacy						.32	.04	.19	.65	.44	.36	.36	.18	.32	.09	−.09
7. Conception of blindness							.39	.21	.27	.58	.60	.50	.21	.62	.19	.27
8. Evaluation of blindness								.09	.25	.38	.26	.50	.31	.64	.23	.40
9. Sentence completion									.18	.17	.35	.23	.25	.19	−.25	−.18
10. Goal attainment										.47	.35	.28	.29	.33	.25	.11
11. Personal interaction											.35	.29	.11	.47	.21	.23
12. Community integration												.68	.36	.65	.20	.15
13. Nonprotectiveness													.38	.76	.22	.00
14. Pity avoidance														.27	.23	.07
15. Generalized attitude															.15	.23
16. Contact with blindness																.44
17. Information about blindness																

which blindness is perceived as potentially threatening, as uniquely frustrating to one's self or others. It seems to be differentiated from the first factor insofar as it is less directly concerned with blind *people* and more with the condition of *blindness*. This third factor has its highest loadings on the Evaluation of Blindness index, on Conception of Blindness, and on the Emotional Attributes index. The Evaluation of Blindness index, it will be recalled, is

TABLE 3
FACTOR LOADINGS AFTER ROTATION
(Hunter College sample)

	Factors					
	1	2	3	4	5	h^2
1. Emotional attributes	.54	.19	.41	.07	.56	.81
2. Individualized attributes	.49	.24	.22	.35	.31	.56
3. Intensity attributes	.69	.16	.21	.27	.01	.63
4. Competence	.52	.36	.16	.16	.26	.52
5. Role adequacy	.35	.61	−.04	.22	.10	.55
6. Activity adequacy	.19	.80	−.25	.08	.11	.76
7. Conception of blindness	−.04	.44	.42	.26	.40	.60
8. Evaluation of blindness	.12	.21	.59	.25	.19	.51
9. Sentence completion	.18	.06	−.19	.50	.21	.37
10. Goal attainment	.45	.70	.01	.02	.06	.70
11. Personal interaction	.09	.52	.26	.05	.46	.56
12. Community integration	−.02	.55	.27	.57	.05	.70
13. Nonprotectiveness	.02	.33	.36	.66	.08	.68
14. Pity avoidance	.47	.16	.21	.48	−.34	.64
15. Generalized attitude	.07	.37	.49	.55	.34	.80
16. Contact with blindness	.10	.34	.50	−.21	−.28	.50
17. Information about blindness	.01	.14	.63	−.22	−.01	.47

TABLE 4
INTERCORRELATIONS (RHOS) AMONG INDICES OF ATTITUDES TOWARD BLINDNESS
(New York School of Social Work sample)

Index	2	3	4	5	6	7	8	9
1. Emotional attributes	.30	.34	.46	.11	.43	.57	−.13	.28
2. Competence		.28	.35	.47	.36	.72	−.08	.16
3. Conception of blindness			.53	.15	.13	.47	.20	.17
4. Personal interaction				.30	.20	.68	.21	.14
5. Community integration					.24	.62	.35	.14
6. Nonprotectiveness						.60	.07	.10
7. Generalized attitude							.15	.32
8. Contact with blind people								.14
9. Information about blindness								

TABLE 5
FACTOR LOADINGS AFTER ROTATION
(New York School of Social Work sample)

	Factor				
Index	1	2	3	4	h^2
1. Emotional attributes	.57	.54	.10	.05	.63
2. Competence	.47	.24	.61	.00	.65
3. Conception of blindness	.01	.67	.17	.00	.48
4. Personal interaction	.05	.72	.34	.00	.64
5. Community integration	.08	.13	.66	.39	.61
6. Nonprotectiveness	.50	.14	.17	.44	.49
7. Generalized attitude	.52	.53	.60	.26	.98
8. Contact with blind people	−.37	.22	.18	.46	.43
9. Information about blindness	.18	.30	.02	.23	.18

derived from evaluative items on a semantic differential having the term "blindness" to be rated. This is the only factor showing correlations with variables tapping experience with blindness—information about blindness and contact with blind people.

A fourth factor may be labeled "Nonprotectiveness." It is most highly correlated with the Nonprotectiveness index, and with Pity-Avoidance, Community Integration, and Sentence Completion. For the latter index, a relative underemphasis on pity or sympathy for the blind is scored "high."

A fifth factor seems to refer to an emotional acceptance of blind people in interpersonal situations. It is essentially unrelated to the perceived competence of blind people in social situations (to which factor 2 refers) but more to a willingness to interact with them in interpersonal situations, combined with an essentially optimistic image of blindness and of blind people's emotional life. This factor, Interpersonal Acceptance, correlates most highly with the Emotional Attributes, Personal Interaction, and Conception of Blindness indices. The negative loading of this factor with the Pity-Avoidance index suggests that a sympathetic or pitying emotion may accompany this warm interpersonal orientation toward the blind.

The cross-matching problem involves study of the degree to which these five factors derived from the Hunter battery can be identified in the Social Work battery. One way to approach the problem is to study whether the Hunter factors "act" in the same way as the Social Work factors; i.e., do they correlate similarly with the attitudinal indicators? This implies a focus on the six attitudinal indices common to both the Hunter and the Social Work groups. These indices are Emotional Attributes, Personal Interaction, Conception of Blindness, Nonprotectiveness, Community Integration, and Competence. The loadings on these indices for a particular Social Work factor can be compared with the loadings of each of the Hunter factors on these same six indices. These comparisons, the results of which are shown in Table 6, are made in two ways. The degree to which the factor loadings derived from separate groups show communality of *pattern* was assessed by correlating (over the six indices) each set of Social Work loadings with every set of Hunter loadings. Since there are four Social Work and five Hunter factors, there are 20 such comparisons possible, and the 20 rhos are listed in Table 6. It should be noted that a negative rho does not mean that large positive Social Work loadings are associated with large negative Hunter Loadings (or *vice versa*) and therefore does not mean the same factor oppositely polarized. In the comparison of these two factor matrices, in which loadings are generally positive or zero, a negative rho means that the

positive Social Work loadings are associated with zero or insignificant Hunter loadings (or *vice versa*), indicating that the two sets of loadings are defining different factors. The degree to which any two sets of factor loadings show communality of magnitude was assessed by computing the number of indices for which the factor loadings from the two groups differed significantly. A perfect match of a Social Work with a Hunter factor would imply perfect correlation of factor loadings over indices and no significant differences between groups with respect to magnitude of loading on any index. For lack of a standardized test of the significance of differences between factor loadings from different samples, the test for significance of differences between product-moment correlation coefficients from different samples was utilized.

Using these matching criteria of pattern and magnitude, we have some objective basis for identifying a particular Social Work factor with a particular Hunter factor. Thus Table 6 reveals that Social Work factors 1, 2, 3, and 4 correspond most closely to factors identified in the Hunter battery as Personal Attributes, Interpersonal Acceptance, Social Attributes, and Nonprotectiveness respectively. The corresponding correlations are .71, .83, .79, and .71. These are not high, but are suggestive of a common structure underlying the two batteries despite differences in the nature of the groups sampled and in the specific items comprising the indices. The weakest identification is Social Work factor 1 with the Personal Attributes factor of the Hunter battery. The chief difficulty here is that the respective correlations of these two factors with the Nonprotectiveness index are .50 and .02, a difference significant at the .05 level. A fifth Hunter factor, Evaluation of Blindness, was not identified in the Social Work group.

There is no overall test known to use for the statistical adequacy of such a factorial match. However, an attempt was made to determine empirically how frequently a matching as good (or better) would arise by chance. "Good" is defined as a matrix of rhos similar to Table 6 such that (*a*) each column should have a maximum rho, (*b*) two of these maximum rhos should be at least .71, and (*c*) the remaining two should be at least .79 and .83.

Twenty tables similar in format to Table 6 were constructed. However, instead of using the actual factor-loading ranks from the Social Work group, random rank patterns were constructed from tables of random numbers and correlated with the actual Hunter factor-loading ranks. The null hypothesis was that at least one of these 20 random tables (5 per cent level) would yield a fit as good as or better than the one yielded by Table 6. However, none of them did, suggesting that the results did not arise by chance.

There is a distinction between the two groups with respect to the two measures dealing with experience with blindness or with blind people—Information about Blindness and Contact with Blind People. In the Hunter group, both Contact and Information are related to the Evaluation of Blindness factor with factor loadings of .50 and .63 respectively. As mentioned above, the Evaluation factor does not emerge in the Social Work sample.

TABLE 6

RANK-ORDER CORRELATIONS BETWEEN LOADINGS OF HUNTER AND SOCIAL WORK FACTORS ON SIX ATTITUDINAL INDICES COMMON TO BOTH BATTERIES

Hunter factors	Social work factors 1	2	3	4
1. Personal attributes	.71(1)	.12(2)	—.24(2)	—.03(4)
2. Social attributes	—.77(2)	—.03(1)	.79(0)	—.14(3)
3. Evaluation of blindness	.12(1)	.12(1)	—.64(2)	.26(2)
4. Nonprotectiveness	.09(2)	—.77(5)	.16(2)	.71(0)
5. Interpersonal acceptance	.09(3)	.83(0)	—.64(2)	.43(4)

Note: The figures in parentheses refer to the number of indices on which the respective Hunter and Social Work loadings differ significantly (by at least the .05 level). Thus .12(2) in Column 2, Row 1, denotes that the rank-order correlation between the loadings of Social Work factor 2 and the loadings of Hunter factor 1 on the six indices is .12 and that there are two indices on which the loadings differ significantly by at least the .05 level.

In the latter sample, the chief relationship between experience with, and attitudes toward, blindness is the correlation of .45 of the Nonprotectiveness factor with the Contact index.

D. Discussion

Two implications of the above findings may be pointed out. First, with a more differentiated view of the nature of these attitudes, it is possible to set up more differentiated hypotheses relating such components to new variables. Thus one order of relationship deals with attitude change. Here it may be hypothecated that communications specifically geared to particular attitude components may be more effective "changers" of those components that are more global or diffuse messages. Thus a communication dealing with stereotypical views of blind people's traits may evoke changes in the dimensions dealing with perceived attributes and yet leave an interaction component essentially unaltered. We have been conducting experimental studies on new populations in order to test this possibility.

Second, the results are not inconsistent with a differentiated, dimensional approach toward attitudes as espoused by Kramer (11), Chein (1), Harding *et al.* (7), and Katz and Stotland (9). The division into cognitive, affective, and interactive components is also consonant with the obtained factors. Thus

cognitive components are represented by the Personal Attributes and the Social Attributes factors, an affective component by the Nonprotectiveness factor and possibly by the Evaluation of Blindness factors, and the interactive component by the Interactive Acceptance factor. However, the factorial structure also suggests greater differentiation among attitudinal components in the case of blindness than in the case of attitudes toward minority groups. Thus, Harding *et al.* (7) conclude that though prejudice toward a particular group is not a unitary dimension, there is little practical difference whether cognitive, affective, or cognitive tendencies are used to rank people in terms of attitudes toward an ethnic group. In this study, the relative independence among components may be due to methodological factors. The use of selected groups, of items with varied format, together with a factor analysis allowing for new sources of common variance to emerge, may have increased the opportunity for more specific tendencies to appear. However, the greater specificity among "blindness" components may also be due to substantive reasons. Blind people, as a group, are less salient than many minority groups. There is and has been much less explicit discussion of how to think, feel, and act toward blind people than toward Negroes and Jews. Social and economic differences may therefore have had less chance of crystallizing around a consistent body of opinion in terms of generalized acceptance or rejection—with cognitive, affective and cognitive ramifications. Then, too, blind people may also represent less of a perceived threat than other social groupings, so that externalization (15) or scapegoat tendencies militating toward generalized rejection of the group in question may have had less occasion for arousal.

Some comment is in order regarding the differences between the samples in factorial structure. The failure of an Evaluation factor to appear in the Social Work sample may be artifactual. An important *index* in the Hunter group helping to define the Evaluation factor is Evaluation of Blindness. The latter index is missing from the Social Work battery, making difficult the identification of the Evaluation factor in this group. What may be more significant is the differential role played in the two samples by nonprotectiveness tendencies. In the Social Work group, the Nonprotectiveness index is more closely related to a relatively positive view of the attributes of blind people than in the Hunter sample. It is plausible that in such a group as the Social Work students, the adaptive and emotional qualities of others have particular saliency. Therefore, protectiveness toward others is prone to arousal by perceptions of personal incompetence (hence the correlation between the Personal Attributes factor and the Nonprotectiveness index). Furthermore, the social-work students express weaker protectiveness tendencies toward the blind than do

the Hunter students (6). Therefore, such tendencies may be more prone to mitigation by actual experience with blind people (hence the heightened relation between Contact with Blind People and the Nonprotectiveness factor in the Social Work group). In any case, group parameters need consideration in analyzing factorial composition in this attitudinal area.

E. Summary

A questionnaire on attitudes toward blindness was administered to 58 evening-college students and an abridged version was administered to 65 social-work students. For each questionnaire, a number of indices were constructed, some dealing with the perceived attributes of blind people, some with sighted people's evaluations of blindness, and some with tendencies to accept or reject interaction with blind people.

For the more extended questionnaire, five factors were identified. These are concerned (*a*) with the degree to which the respondents have a negative view of the emotional life and general adequacy of blind people, (*b*) with the degree to which the respondents see blind people as socially competent, (*c*) with the degree to which blindness is perceived as potentially threatening or uniquely frustrating, (*d*) with tendencies to be protective of blind people, and finally (*e*) with the readiness for personal interaction with blind people. Some evidence is presented for the cross identification of four of these factors in the group receiving the abridged questionnaire. The implications of the findings for attitude change and their relation to attitudes toward ethnic minorities are discussed.

References

1. Chein, I. Notes on a framework for the measurement of discrimination and prejudice. In M. Jahoda, M. Deutsch, & S. W. Cook, *Research Methods in Social Relations* (Vol. 1). New York: Dryden, 1951. Pp. 382-390 .
2. Chevigny, H., & Braverman, S. The Adjustment of the Blind. New Haven: Yale Univ. Press, 1950.
3. Cowen, E. L., Underberg, R. P. & Verrillo, R. T. The Development and testing of the attitude to blindness scale. *J. Soc. Psychol.*, 1958, **48**, 297-304.
4. Cutsforth, T. D. The Blind in School and Society: A Psychological Study. New York: American Foundation for the Blind, 1951.
5. Fruchter, B. Introduction to Factor Analysis. Princeton, N. J.: Van Nostrand, 1954.
6. Gowman, A. G. The War Blind in American Social Structure. New York: American Foundation for the Blind, 1957.
7. Harding, J., Kutner, B., Proshansky, H., & Chein, I. Prejudice and ethnic relations. In G. Lindzey (Ed.), *Handbook of Social Psychology* (Vol. 2). Cambridge, Mass.: Addison-Wesley, 1954. Pp. 1021-1061.
8. Harman, H. H. Modern Factor Analysis. Chicago: Univ. Chicago Press, 1960.
9. Katz, D. & Stotland, E. A preliminary statement to a theory of attitude structure

and change. In S. Koch (Ed.), *Psychology as a Study of a Science* (Vol. 3). New York: McGraw Hill, 1959. Pp. 423-475.

10. KOEHLER, M. E. The personnel problems of the blind student in a university. M.A. thesis, University of Minnesota, Minneapolis, 1933.
11. KRAMER, B. M. Dimensions of Prejudice. *J. of Psychol.*, 1949, **27**, 389-451.
12. RUSALEM, H. The environmental supports of public attitudes toward the blind. *Outlook for the Blind*, 1950, **44**, 277-288.
13. SCHAEFER, F. M. The social traits of the blind. M.A. thesis, Loyola University, Chicago, 1930.
14. SIMMONS, H. E. The Attitudes of the Sighted Toward the Blind. New York: *Amer. Assoc. Workers for the Blind*, 1949.
15. SMITH, M. B., BRUNER, J. S., & WHITE, R. W. Opinions and personality. New York: Wiley, 1956.
16. WHITEMAN, M., & LUKOFF, I. F. Attitudes toward blindness in two college groups. *J. Soc. Psychol.*, 1964, **63**, 179-191.

The Columbia University School of Social Work
2 East 91st Street
New York, New York 10028

The Journal of Social Psychology, 1964, 64, 355-368.

SOCIAL PARTICIPATION AND SOME DEMOGRAPHIC VARIABLES*

College of Nursing, Rutgers University

MARY BACH KIEVIT[1]

A. INTRODUCTION

Social participation in formal organizations is an interesting and significant subject for study. Komarovsky (10), Bushee (5), and Anderson (2), among others, have studied social participation in community organizations. Reissman (13, p. 429) and Curtis (7) have discussed social participation in relation to social class and social mobility. Hilgard (9, p. 227) considered social participation as a practice enhancing mental health. He discussed the importance of informal social relations, but suggests the value of social participation in formally organized groups as well.

Mueller (11), Williamson (16), and Rogers (14) have focussed on student participation in campus organizations. Attention to higher education as a field of study most assuredly will consider student participation in a variety of contexts. Nevitt Sanford points to one such context when he states ". . . students of personality are more inclined than formerly to attach importance to the college years . . ." (15, p. 72). If attention is given to personality formation and to the agents of that formation, participation in organizations—an integral part of the student culture and a vehicle for peer-group influence—should receive some much-deserved consideration.

A scale which has been used to measure social participation was developed by Chapin (6). Some researchers have modified the original scale for their use (8). This scale requires the respondent to list the formal organizations of which he is a member and asks him to specify the degree of his participation as shown in Table 1.

The participation score is derived by counting the number of memberships, weighting according to the degree of participation as shown in Table 1, and summing the weights.

* Received in the Editorial Office on April 23, 1963. Copyright, 1964, by The Journal Press.

[1] The author is highly indebted to Dr. William Wells for his assistance in clarifying and organizing ideas, and in data-analysis procedures.

1. *Methodological Issues*

Several questions can be raised about the way the Chapin Scale functions as a measuring device. One question is concerned with the way respondents array themselves on the social-participation dimension. Is the distribution of scores a unimodal, symmetrical distribution, as scores on many personality scales and intelligence tests are? Or is the distribution highly skewed, markedly bimodal, or both? The answer to this question has important implications for handling the Chapin Scale data.

TABLE 1
WEIGHTS ASSIGNED TO DEGREE OF PARTICIPATION IN CHAPIN'S SOCIAL PARTICIPATION SCALE

Degree of participation	Weight
Member only	1
Attendance	2
Financial contribution	3
Member of a committee	4
Holds an office	5

A second question is concerned with whether social participation is a unidimensional or multidimensional variable. In other words, does participation in one social context have a meaning different from participation in some other social context? Two social contexts are logical competitors for the student's social-participation time—the campus and the larger community. A question, then, is whether participation in the community is positively related, negatively related, or unrelated to participation in campus organizations. The answer to this question has definite import for analysis of participation data. This paper presents evidence pertaining to both of these questions.

2. *Substantive Issues*

In addition to the presentation of some evidence on the two questions raised above, evidence is presented on relationships between social-participation scores and several important demographic variables. Specifically, evidence will be presented on the relations between social participation and sex, marital status, socioeconomic status, and employment in a selected student population. The significance of these findings will then be discussed.

B. METHOD

1. *Subjects*

Subjects in the present study were 447 students in the sophomore class at an Eastern community college. As will be shown later in this report, the

student population tends to be drawn from a somwhat lower socioeconomic status than a state-university population, a fact which suggests that this college may serve as a means for achieving upward social mobility for many students. All of the students live at home and commute to the college. Approximately four-fifths of them are females.

2. *Procedure*

A biographical data sheet—including questions about age, marital status, and father's occupation—and the Chapin Social Participation Scale were mailed with a return self-addressed stamped envelope to the subjects. Usable data were received from 300 women and 77 men. This constituted 83 per cent return for women and 88 per cent return for men. From an examination of available records of 49 nonrespondents, nonrespondents did not appear to differ significantly from respondents, on any variables relevant to the present study.

C. Results

1. *Social-Participation-Score Distribution*

Figure 1 shows a histogram of the social-participation scores obtained from the present sample. The distribution is highly skewed, with a range from zero to 121 and a median at 8—quite close to the lower limit of the range. A distribution very similar to this was obtained in a study by Henningsen, Moss, and Rogers (8) and in an earlier study by this researcher (3).

For purposes of analysis, data from respondents were grouped into two categories: (*a*) nonparticipants—i.e., respondents who reported no participation; and (*b*) participants—i.e., respondents who reported participating in at least one organization. Later sections of the report will show the nature of the results that such separate analyses can yield.

2. *Social Participation Dimensions*

For students living at home, two social contexts exist in which to participate. The nature of community organizations differs in many aspects from that of college organizations; thus participation in one or the other could plausibly attract different types of students and have a different meaning. Therefore, the question is, are high participants in campus organizations equally high participants in community organizations? Unless the two are positively and highly related, it does not make much sense to treat social participation as a single dimension by combining the two. Table 2 shows the relation between participation in college organizations and participation

in community organizations for all students. The relationship is portrayed in terms of participation *vs.* nonparticipation and in terms of participation score quarters.

As indicated, of 98 respondents who do not participate in community organi-

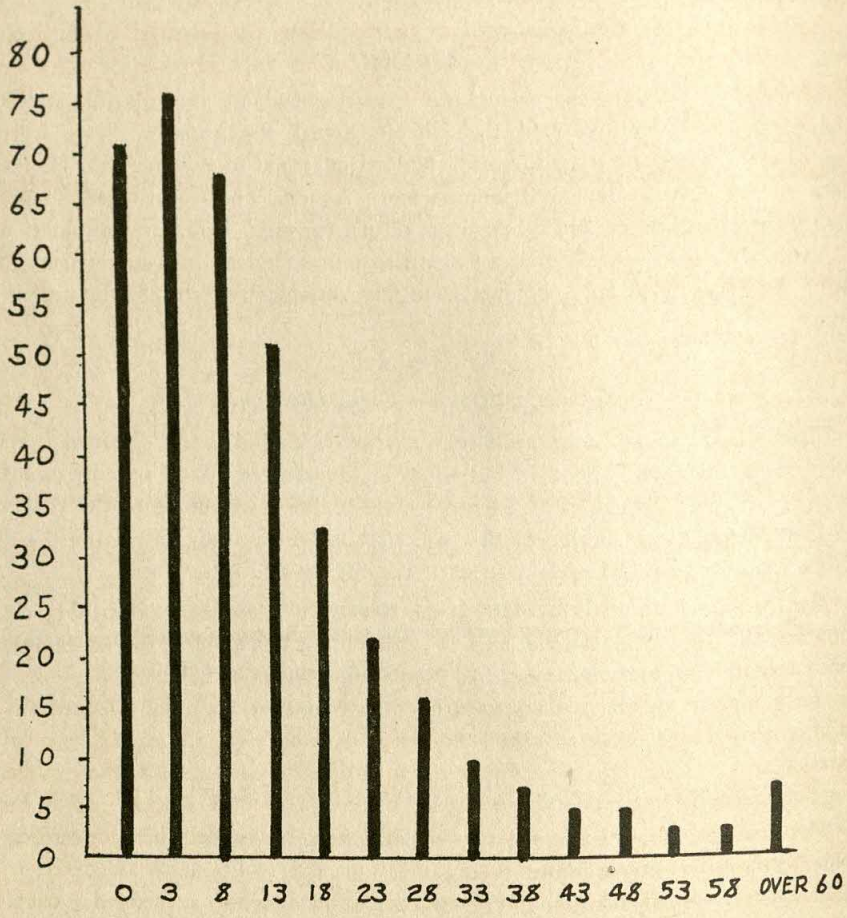

FIGURE 1
TOTAL SOCIAL-PARTICIPATION SCORES (FREQUENCY AS A FUNCTION OF SCORE)

zations, approximately 45 per cent have campus participation scores in the first and the second quarter. Slightly over 37 per cent are in the third quarter.

Of the 64 respondents who do not participate in campus organizations,

approximately 40 per cent have community participation scores in the first and the second quarter. The remaining 60 per cent are distributed equally between the third and the fourth quarters.

Of all respondents, 71 do not participate in either campus or community organizations.

As indicated, the two social-context participations are essentially independent, with an o of .245. It is, therefore, quite important to treat them separately.

TABLE 2
NUMBER OF ALL STUDENTS BY CAMPUS AND COMMUNITY PARTICIPATION SCORE QUARTERS

Campus participation score quarters	Nonparticipation	Community participation score quarters: Lowest 25%	Third 25%	Second 25%	Highest 25%
Highest 25%	23	3	11	15	20
Second 25%	23	8	13	8	7
Third 25%	37	13	18	8	11
Lowest 25%	15	1	2	4	2
Nonparticipation	71	19	19	11	15

3. *Demographic Characteristics Associated with Social Participation*

a. Sex. Many reasons led us to expect that women students would participate more than men. For example, this researcher found in a previous study that a significantly greater proportion of women were in the highest quarter for the total sample (3). Furthermore, this student population is predominately women and may thus give a more feminine orientation to campus organizations, which tends to strengthen the expectation for this sample. Thus, it might be expected that a higher proportion of males would be nonparticipants, especially in campus organizations. Further, for those who participate in at least one organization, scores for women would tend to be higher than for men. Table 3 shows the extent of nonparticipation in campus and community organizations by sex.

Although not statistically significant, as expected, males do exceed women in the extent of nonparticipation in both campus and community organizations.

Table 4 shows the median participation scores of men and women who participated in at least one organization.

Women exceed men in the degree of participation. This difference, although not statistically significant, holds for both the campus and the community, with the latter showing a somewhat sharper difference.

b. Marital status. It seems plausible that the importance of college organizations is somewhat different for single and for married students. Single students, personally, would be much more likely than married students to use campus organizations as a means of meeting members of the opposite sex. Further, in keeping with concerns and interests compatible with marriage, time available for participation might well be used for community partici-

TABLE 3
NONPARTICIPATION BY SEX

Classification	Males ($N = 77$)	Females ($N = 300$)
Participated in no campus organizations[a]	40%	35%
Participated in no community organizations[b]	51%	43%

[a] $\chi^2 = .73$, 2 *df*, nonsignificant.
[b] $\chi^2 = 1.78$, 2 *df*, nonsignificant.

TABLE 4
MEDIAN PARTICIPATION SCORES BY SEX FOR STUDENTS WHO PARTICIPATED IN AT LEAST ONE ORGANIZATION

Organization	Males		Females	
	N	Median	*N*	Median
Campus[a]	46	9	194	13
Community[b]	38	2	169	7

[a] $z = .70$, nonsignificant.
[b] $z = 1.71$, nonsignificant.

TABLE 5
NONPARTICIPATION BY SEX AND MARITAL STATUS

Classification	Males		Females	
	Single ($N = 70$)	Married ($N = 7$)	Single ($N = 292$)	Married ($N = 18$)
Participated in no campus organizations[a]	37%	71%	34%	56%
Participated in no community organizations[b]	51%	43%	45%	6%

[a] $\chi^2 = 6.48$, 1 *df*, significant at .02 level.
[b] $\chi^2 = 8.69$, 1 *df*, significant at .01 level.
Note: Men and women students were combined for computation of χ^2.

pation rather than campus participation. Rogers' findings (14) tend to support the expectation that married students participate less in campus activities, a result that is also supported by the findings from this study (see Table 5).

Table 6 presents median participation scores by sex and marital status for respondents who participate in at least one organization.

Thus, significantly fewer married students are nonparticipants in the community than are single students, while significantly more married students are nonparticipants in campus organizations than are single students. Likewise, median scores show less participation for married students who are participating in at least one organization, the one exception to this being that single and married men participate in the community to the same extent. Differences in medians, however, are not statistically significant.

c. Socioeconomic status. Several studies have indicated a relationship between socioeconomic status and social participation in the larger community and in college communities (10, 11, 16). Respondents in this study were grouped into five socioeconomic categories on the basis of the student's father's

TABLE 6
MEDIAN PARTICIPATION SCORES BY SEX AND MARITAL STATUS AMONG STUDENTS WHO PARTICIPATED IN AT LEAST ONE ORGANIZATION

	Males				Females			
	Single		Married		Single		Married	
Organization	*N*	Median	*N*	Median	*N*	Median	*N*	Median
Campus[a]	44	9	2	2	186	13	8	6
Community[b]	34	6	4	6	154	13	17	10.5

[a] $z = .64$, nonsignificant.
[b] $z = -1.07$, nonsignificant.

occupation. The occupations were rated on the basis of an extended North-Hatt Occupational Prestige Rating Scale (12).[2] The ratings were divided into five categories; I, included occupations rated from 96-82; II, 81-75; III, 74-67; IV, 66-59; and V, 58-44. The five categories included the following occupations: I, professional; II, proprietors and dealers; III, sales and clerical workers as well as white-collar workers generally; IV, skilled craftsmen and kindred workers; and V, service workers—semiskilled and unskilled. Table 7 shows the distribution in the five categories by sex. It also shows comparison data from a sample of sophomores from a Midwestern state university (4, p. 342).

As indicated above, the present sample draws significantly more students from the lower socioeconomic strata than does a state university. This fact suggests that a sizeable proportion of these students are upwardly mobile. The social movement would be in the initial stages, however, and dependent for continuance upon success in college. If such be the case, it might be

[2] The original scale was extended by a group of sociologists at The Ohio State University and is available in mimeographed form from Dr. Russell Dynes.

expected that the severance of old status ties, viewed as a concomitant of mobility, is not complete nor is the forming of new associations—rather that, since college is a transition period, students would manifest patterns of social participation in keeping with their origins and yet show some evidence of movement.

TABLE 7

NUMBER AND PERCENTAGE OF RESPONDENTS BY SEX IN PRESENT SAMPLE AND COMPARISON SAMPLE

Socioeconomic category	Males[a]		Females[b]	
	Present sample ($N = 77$)	Comparison sample ($N = 360$)	Present sample ($N = 300$)	Comparison sample ($N = 434$)
I		9.7%	2.0%	16.4%
II	9.0%	26.1	8.7	29.7
III	35.0	32.5	45.7	32.3
IV	23.4	15.0	23.0	11.1
V	16.9	8.6	8.6	5.1
No data	15.6	8.1	12.0	5.0
Total	99.9%*	100.0%	100.0%	99.9%*

* Less than 100 due to rounding-off error.
[a] $\chi^2 = 30.47$, 4 *df*, significant at .001 level.
[b] $\chi^2 = 84.26$, 4 *df*, significant at .001 level.

TABLE 8

NUMBER AND PERCENTAGE OF MALE NONPARTICIPANTS BY SOCIOECONOMIC CATEGORY

Classification	Males Socioeconomic categories	
	II & III ($N = 35$)	IV & V ($N = 31$)
Participated in no campus organizations[a]	34%	42%
Participated in no community organizations[b]	46%	55%

Note: The number of married males was too small for separate analysis; consequently these cases were combined with single males.
[a] $\chi^2 = .41$, 1 *df*, nonsignificant.
[b] $\chi^2 = .55$, 1 *df*, nonsignificant.

Tables 8 and 9 report the relation between socioeconomic status and social participation.

A larger proportion of males in socioeconomic category IV plus V are nonparticipants in both campus and community organizations than are males in category II plus III. This finding is consistent with social participation patterns of these socioeconomic strata in the larger community (10), but does not attain statistical significance.

Table 9 shows median participation scores for males who participate in at least one organization.

Males from category IV plus V who do participate do so more extensively than those from category II plus III. This difference would quite probably have been obscured had analysis not been in terms of nonparticipation-participation. The difference is slight in campus participation, but community participation medians show a sharper difference; neither attains statistical significance.

TABLE 9
MEDIAN PARTICIPATION SCORES OF MALES BY SOCIOECONOMIC CATEGORIES

Socioeconomic category	Median participation scores			
	N	Campus[a]	*N*	Community[b]
II & III	23	8.5	18	3
IV & V	18	9	14	6

[a] $z = .07$, nonsignificant.
[b] $z = -1.12$, nonsignificant.

TABLE 10
NUMBER AND PERCENTAGE OF FEMALE NONPARTICIPANTS BY SOCIOECONOMIC CATEGORY

Classification	Females Socioeconomic categories		
	I & II ($N = 32$)	III ($N = 137$)	IV & V ($N = 96$)
Participated in no campus organizations[a]	22%	37%	32%
Participated in no community organizations[b]	25%	43%	46%

Note: The number of cases of married women was too small for separate analysis and thus these cases were combined with single women.
[a] $\chi^2 = 3.07$, 2 *df*, nonsignificant.
[b] $\chi^2 = 4.07$, 2 *df*, nonsignificant.

Table 10 shows the results for female respondents.

The proportion of female nonparticipation in campus organizations is greatest for category III. The proportion of nonparticipation in the community increases from higher to lower status, thus showing community participation patterns consistent with those for adults in similar strata in the community. The variations were found not to be statistically significant for either campus or community nonparticipation.

Table 11 presents median social participation scores for women.

Median scores show a decrease in the extent of campus participation from high to lower socioeconomic strata. The trend is reversed, however, for community participation, with less participation by women in the category I plus II and in category III than those in category IV plus V. Differences noted did not attain statistical significance.

Both men and women in category IV plus V had less nonparticipation in campus organizations than in the community. Males in category IV plus V who did participate on the campus showed slightly higher participation than those in category II plus III. Women in category IV plus V were slightly less active than those in the other two categories. Such results suggest that campus participation may have a different meaning for these students than

TABLE 11

MEDIAN PARTICIPATION SCORES FOR FEMALES BY SOCIOECONOMIC CATEGORIES

Socioeconomic category	Median participation scores			
	N	Campus[a]	*N*	Community[b]
I & II	25	14	24	6
III	86	8	78	7.5
IV & V	65	7	52	8

[a] $\chi^2 = 4.24$, 2 *df*, nonsignificant.
[b] $\chi^2 = .73$, 2 *df*, nonsignificant.

does community participation. Campus organizational activities potentially provide an opportunity for interaction with members of higher socioeconomic strata. Such interaction could serve to facilitate the socialization that upward mobility necessitates.

The explanations of the higher medians for community participation of men and women respondents in the two lower socioeconomic levels may be found in the complexities of social mobility pointed out by Abegglen (1) and Reissman (13). Among unexplored possibilities is the likelihood that some of these individuals may be members of downwardly mobile families or have mothers whose families of origin held a higher status. In either case, values pertaining to participation may be those of the higher status level, and participation reflects this. Other possibilities are (*a*) that the memberships are in organizations in the community which include persons from most socioeconomic levels and are retained; (*b*) that the upward movement is over a narrower social distance—i.e., from class IV or V to III—and thus does not necessitate severance of some status ties; and (*c*) as mentioned earlier, individuals in transition from one status level to another may retain meaningful associations of the lower status which will be terminated later.

d. Time for participation. Since participation in organizations requires time, it is plausible that a student who works may have less time to participate than one not working. One study (3) found that, although not statistically significant, there was a consistent increase in the percentage of men employed with a decrease in participation. The same finding was true for women and

significant at the .05 level. Employment data of the present study were analyzed in relation to the amount of nonparticipation in campus and community settings. Table 12 reports the proportion of nonparticipants by employment categories for males.

By examining nonparticipation in relation to employment, it becomes evident that, as a category, male students working 15 hours or less per week

TABLE 12
NUMBER AND PERCENTAGE OF MALE NONPARTICIPANTS BY EMPLOYMENT

Classification	Employment categories: Not employed ($N = 21$)	Employed 15 hours or less per week ($N = 19$)	Employed over 15 hours per week ($N = 37$)
Participated in no campus organizations[a]	52.4%	5.2%	49.9%
Participated in no community organizations[b]	52.3%	31.5%	62.1%
Participated in no campus or community organizations[c]	28.6%		35.0%

Note: The number of married males was too small for separate analysis and thus these cases were combined with single men.
[a] $\chi^2 = 11.42$, 2 *df*, significant at .01 level.
[b] $\chi^2 = 4.61$, 2 *df*, nonsignificant.
[c] $\chi^2 = 8.67$, 2 *df*, significant at .02 level.

have a significantly smaller proportion of nonparticipants than either of the other two categories. The results suggest that the two categories—not employed and working over 15 hours per week—are somewhat similar in the extent of nonparticipation. Yet, a slightly larger proportion of males employed over 15 hours per week are nonparticipants in community activities than are males not employed.

Table 13 reports the median participation scores for males, who participate in at least one organization, by employment.

Differences in medians were small, and none was statistically significant. Thus, for men, employment is related more directly to whether or not the student will participate in any organization than to the amount of participation if he is a participant.

Table 14 presents the results for women, with reference to employment and nonparticipation.

Women students working 15 hours or less have a smaller proportion of nonparticipants in campus, and campus or community, than the other two employment categories. Differences are slight, however, and not statistically

significant. Although differences do not attain statistical significance, the proportion of nonparticipants in community organizations increases with increased employment.

Table 15 reports the median participation scores for women.

Median scores for campus and for community participation decrease with increased employment. The differences are slight, however, and not statistically significant. Students employed for over 15 hours per week have the

TABLE 13
MEDIAN PARTICIPATION SCORES FOR MALES WHO PARTICIPATED IN AT LEAST ONE ORGANIZATION BY EMPLOYMENT

Employment categories	Median participation scores					
	N	Campus[a]	*N*	Community[b]	*N*	Campus and Community[c]
Not employed	10	7.5	10	6.5	15	10
Employed 15 hours per week or less	18	9	13	2	19	10
Employed over 15 hours per week	20	9	14	6.5	24	11.5

[a] $\chi^2 = 1.2$, 2 *df*, nonsignificant.
[b] $\chi^2 = 1.86$, 2 *df*, nonsignificant.
[c] $\chi^2 = .28$, 2 *df*, nonsignificant.

TABLE 14
NUMBER AND PERCENTAGE OF FEMALE NONPARTICIPANTS BY EMPLOYMENT

Classification	Employment categories		
	Not employed ($N = 170$)	Employed 15 hours or less per week ($N = 80$)	Employed over 15 hours per week ($N = 44$)
Participated in no campus organizations[a]	39%	29%	36%
Participated in no community organizations[b]	42%	44%	48%
Participated in no campus or community organizations[c]	18%	15%	23%

Note: The number of married women was too small for separate analysis and thus these cases were combined with single women.
[a] $\chi^2 = 1.06$, 2 *df*, nonsignificant.
[b] $\chi^2 = 1.21$, 2 *df*, nonsignificant.
[c] $\chi^2 = .41$, 2 *df*, nonsignificant.

lowest median participation scores for campus, community, and campus and community combined, suggesting that employment for over 15 hours serves to limit the amount of participation.

An analysis of employment and participation data in relation to socio-economic data indicated that the relationships between employment and

TABLE 15
MEDIAN PARTICIPATION SCORES FOR FEMALES WHO PARTICIPATE IN AT LEAST ONE ORGANIZATION BY EMPLOYMENT

Employment categories	Median participation scores					
	N	Campus[a]	*N*	Community[b]	*N*	Campus and community[c]
Not employed	104	10	98	8	139	12
Employed 15 hours per week or less	57	9	45	8	68	14
Employed over 15 hours per week	28	5.5	23	5	34	6

[a] $\chi^2 = 1.56$, 2 *df*, nonsignificant.
[b] $\chi^2 = 5.18$, 2 *df*, nonsignificant.
[c] $\chi^2 = 5.18$, 2 *df*, nonsignificant.

participation tend to hold for each socioeconomic category. The number of cases in cells, however, prohibited the use of statistical tests.

D. CONCLUSIONS

Three findings from this study have particular import for future research in the area of social participation.

1. The manner in which respondents array themselves on the Chapin Social Participation Scale (i.e., in a highly skewed distribution) places certain limitations on procedures used in testing for relationships.

2. The social participation variable apparently has more than one dimension, at least for some college student populations.

3. The relationships between the demographic variables of sex, marital status, socioeconomic status, and employment and the social participation of students suggest that the controlling of these variables may bring to the fore more sharply delineated relationships between social participation and such variables as mental health, socialization into higher status-level patterns, and changes in attitude, among others.

In sum, careful attention to the nature and meaning of the social participation variable, careful attention to the nature and meaning of the social context in which participation occurs, and control of relevant demographic variables may have considerable effect on the conclusion to be drawn from studies in which social participation is the pivotal concern.

REFERENCES

1. ABEGGLEN, J. C. Personality factors in social mobility: A study of occupationally mobile businessmen. *Genet. Psychol. Monog.*, 1958, **58**, 101-159.
2. ANDERSON, W. A. Family social participation and social status self-rating. *Amer. Sociol. Rev.*, 1946, **11**, 253-258.

3. BACH, M. L. Factors related to student participation in campus social organizations. Unpublished dissertation, Ohio State University, Columbus, 1957.
4. ————. Factors related to student participation in campus social organizations. *J. Soc. Psychol.*, 1961, **54**, 337-348.
5. BUSHEE, F. A. Social organization in a small city. *Amer. J. Sociol.*, 1945, **51**, 217-226.
6. CHAPIN, F. S. Social participation and intelligence. *Amer. Sociol. Rev.*, 1939, **4**, 175-186.
7. CURTIS, R. F. Occupational mobility and membership in formal voluntary associations: A note on research. *Amer. Sociol. Rev.*, 1959, **24**, 846-848.
8. HENNINGSEN, C. G., MOSS, R. C., & ROGERS, E. M. Participation in Campus Life. Ames, Iowa: Iowa State Coll., 1956.
9. HILGARD, E. R. Introduction to Psychology. New York: Harcourt, Brace, 1957.
10. KOMAROVSKY, M. The voluntary associations of urban dwellers. *Amer. Sociol. Rev.*, 1946, **11**, 686-698.
11. MUELLER, K., & MUELLER, J. Class structure and academic and social success. *Educ. & Psychol. Meas.*, 1953, **13**, 486-496.
12. NORTH, C., & HATT, P. Jobs and occupations: A popular evaluation. *Opin. News*, 1947, September, 3-13.
13. REISSMAN, L. Class in American Society. Glencoe, Ill.: Free Press, 1959.
14. ROGERS, E. M. The effect of campus marriages on participation in college life. *Coll. & Univ.*, 1958, Winter, 193-99.
15. SANFORD, N., *Ed.* Higher Education as a Field of Study in the American College. New York: Wiley, 1961.
16. WILLIAMSON, E. G., LAYTON, W. L., & SNOKE, M. L. A study of participation in college activities. No. 5, Studies in Student Personnel Work, University of Minnesota, 1954.

College of Nursing
Rutgers University
18 James Street
Newark 2, New Jersey

The Journal of Social Psychology, 1964, **64**, 369-378.

FINANCIAL INCENTIVES AND GROUP DECISION IN MOTIVATING CHANGE * [1]

Department of Psychology, University of Michigan

NORMAN R. F. MAIER AND L. RICHARD HOFFMAN

A. INTRODUCTION

In a series of studies with a role-playing problem of resistance to change (2, 4, 6), it was found that the foreman has difficulty persuading a team of three men to go along with a change in work methods. Despite the fact that the men are paid on a group piece-rate basis and that financial gains favor the change, such factors as anticipated boredom, suspicion of the company objectives, and dislike of time-study men act as resistance forces. Whether or not a group of workers goes along with the change depends greatly on the attitude and skill of the foreman in handling the discussion.

What would happen if the men were paid on an hourly basis? The removal of the piece-rate would reduce, if not remove, the motivational forces in favor of making the change, but the resistance forces would remain the same. Such a change in the motivational forces would be expected to decrease the likelihood that the workers would adopt the work method proposed by the foreman. However, with this change the problem might take on a different character. For example, because the foreman would lose his big "selling" point of higher wages, he might use somewhat different tactics in trying to induce change. While the effects of a change from a piece-rate to an hourly method of pay might seem obvious at first sight, the question of what effect such a change in incentive has on workers' willingness to accept a new work method was subjected to an experimental test.

B. METHOD

1. *Subjects*

Students from four semesters of an undergraduate course in human relations were used as subjects. Subjects were assigned randomly in each laboratory section to four-person groups, and a total of 89 groups (556 subjects) was thus obtained over the four semesters. In addition, the data of

* Received in the Editorial Office on April 26, 1963. Copyright, 1964, by The Journal Press.

[1] The research reported was conducted in conjunction with USPHS Grant No. M-2704 from the National Institutes of Health, U. S. Public Health Service.

50 groups obtained from two previous semesters are included for comparison purposes since the conditions were the same as for one of the experimental conditions (group piece-rate pay) in the present experiment.

2. *Problem*

The *Change of Work Procedure* case was used (5). The problem solving was done by simulating a work situation through the use of a role-playing format. The preliminary instructions for the piece-rate groups, which were read aloud to all groups, were as follows:

> Each of you will be assigned the role of a particular person in a four-person group. You work in a plant that does a large number of sub-assembly jobs, such as assembling generators, carburetors, and starters. One of you will be Gus Thompson, the foreman of several work groups, including the one with which we are concerned today. The rest of you will be Jack, Walt, and Steve, who make up a particular work group assembling fuel pumps. The assembly operation is divided into three positions or jobs called Position 1, Position 2, and Position 3. Supplies for each position are located next to the bench where the man works. Since the three jobs are rather simple and each person is familiar with all of the operations, you exchange positions every hour. You three assembly workers developed this practice of trading positions yourselves and have worked together this way for a long time. (You work on a group piece-rate basis; so the trading of positions creates no financial problem.)

The corresponding instructions for the experimental groups were the same except for the sentence in parentheses, for which the following sentence was substituted: "(The hourly pay for the three positions is the same; so the trading creates no financial problem.)"

Special instructions were also supplied to each of the role players. The foreman, Gus Thompson, was supplied with data from the time-study department which showed that each man did his fastest work on one of the three positions. It was suggested that if each man worked on his best position a production increase of 20 per cent was possible. The foreman was encouraged to persuade the men to work only their best position. The role instructions for Jack, Walt, and Steve included references to their feelings of boredom, a dislike of time study, and hints of speedup tactics. Each role also referred to the method of pay.

Solutions to this problem fall into three types: (*a*) Old—includes solutions that continue the old rotation method as well as solutions with minor variations and additions, such as helping each other, more training on certain positions, further time studies, etc. (*b*) New—includes all solutions in which

the men are to work on their best position for at least a trial period, often with additional minor variations, such as rest pauses, music, etc. (*c*) Integrative—includes a variety of solutions that integrate the other two: two men rotate and one works fixed position; all rotate between their two best positions; all rotate but spend more time working on their best position, etc.

Only about two per cent of the solutions offer difficulties in classification into the three types, usually because they are trial comparisons of more than one type of work method. We arbitrarily assigned solutions to the category to be tried first.

In previous studies, the Integrative solutions have been considered to be of higher quality than the others because they incorporate the facts of the time study with the facts of boredom. Such solutions are not implicit in the role instructions and are usually produced only if the foreman or the workers, and usually both, redefine the problem as developing a way to increase production rather than as merely a choice between the Old and the New methods of working.

3. *Procedure*

The multiple role-playing method (7) was used in this experiment. Laboratory sections of 12 to 20 students were divided into four-person groups. Either the piece-rate instructions or the hourly rate instructions were given to all groups in any one section to prevent contamination of the data. The sections were assigned to each of the two conditions in a way which balanced as well as possible the instructor[2] of the section and the time during the week when the section occurred. Physical separation of the groups during the multiple role playing assured the independence of results from group to group within a section.

All laboratory groups role played the problem simultaneously. A two-minute warning signal was given after 23 minutes of role playing and all groups were stopped at the end of 25 minutes. This time is more than ample for most groups to reach a decision and only rarely is a group unable to finish in the allotted time.

After all the groups in a section had completed the role playing and arrived at a decision, each foreman was asked by the instructor to report the work method his group was going to use. In addition, the instructor asked him and each of the three workers whether he thought production was going to *go up,*

[2] We express our appreciation to Melba Colgrove, Malcolm Klores, James Rae, and Bruce Springborn (the instructors of the laboratory sections) for their cooperation in obtaining the data.

go down, or *stay the same*. This opinion may be considered to indicate the individual's emotional support for the solution and his willingness to help execute the solution.

Of the 89 groups in the present study, 60 were given the hourly pay instructions and 29 were given the piece-rate pay instructions. Both the solutions and the production-estimate reports were obtained from these groups. The solutions produced by 50 groups with piece-rate pay instructions obtained in previous semesters are also presented to strengthen the comparison. Production estimates were not obtained from these groups.

C. Results

Table 1 shows the distributions of solutions among the three types—Old, New, Integrative—produced by groups in the two pay conditions. The results of the two sets of groups with the piece-rate pay instructions, shown in the top two rows of the table, are practically identical, justifying their combination for comparison with the results of the groups with hourly pay instructions.

TABLE 1
Distributions of Solutions from Groups with Different Payment Methods

Payment method	Type of solution: Old		New		Integrative		Total	
	N	%	*N*	%	*N*	%	*N*	%
Piece-rate (prior data)	8	16.0	21	42.0	21	42.0	50	100.0
Piece-rate (present data)	3	10.4	13	44.8	13	44.8	29	100.0
Combined piece-rate	11	13.9	34	43.0	34	43.0	79	99.9
Hourly	15	25.0	21	35.0	24	40.0	60	100.0

Note: Chi-square tests of the three types of solutions against the two sets of piece-rate pay groups and against the combined piece-rate pay and hourly pay conditions yielded values of 0.46 and 2.88, neither of which approaches the .05 level of confidence.

Critical-ratio tests of the differences in the percentages of Old solutions produced by the hourly pay groups as compared with the combined piece-rate pay groups and with the piece-rate pay groups of the present study yielded values of 1.62 and 1.83, the latter significant at the .05 level of confidence by one-tailed test.

This comparison is shown in the bottom two rows of Table 1 and reveals no significant difference in the distributions of solutions among the three types. While the reduced financial incentive in the hourly pay condition was expected "obviously" to reduce the motivation of the workers to change their work method, in fact 75.0 per cent of these groups adopted a different work method. This percentage is within chance expectancy of the 86.1 per cent of the piece-rate pay groups which changed work methods.

While the distributions of solution types obtained from the two pay condi-

tions did not differ substantially, we may ask whether the workers' feelings about their adopted work methods were affected by the pay conditions. To answer this question, the workers' production estimates—their expressions of emotional support or lack of support for the adopted work method—are examined. These reports were obtained, it will be remembered, only from the 29 piece-rate pay groups and the 60 hourly pay groups in the present experiment.

Each worker's opinion that production would *go up*, *go down*, or *stay the same* was assigned a value of +1, —1, or zero, respectively. By adding these production-estimate scores together for the three workers in each group, a group production estimate was obtained. The group estimate could vary be-

TABLE 2
MEANS AND STANDARD DEVIATIONS OF GROUP PRODUCTION ESTIMATES FROM GROUPS WITH DIFFERENT PAYMENT METHODS

	Type of solution									
	Old			New			Integrative			
Payment method	*N*	Mean	*SD*	*N*	Mean	*SD*	*N*	Mean	*SD*	*F*
Piece-rate (present rate)	3	1.67	1.53	13	1.23	1.64	13	2.69	.63	4.38*
Hourly	15	1.67	1.29	21	0.33	2.29	24	2.71	.69	12.93**

* *F* significant at the .05 level of confidence.
** *F* significant at the .01 level of confidence.

TABLE 3
DISTRIBUTIONS OF GROUP PRODUCTION ESTIMATES FROM GROUPS WITH DIFFERENT PAYMENT METHODS

	Type of solution					
	Old		New		Integrative	
	Production estimate		Production estimate		Production estimate	
Payment method	—3 to 0	+1 to +3	—3 to 0	+1 to +3	—3 to 0	+1 to +3
Piece-rate (present data)	1	2	2	11	0	13
Hourly	4	11	11	10	0	24

tween —3 (all workers thought production would *go down*) to +3 (all workers thought production would *go up*).

Table 2 shows the mean worker production estimates and Table 3 shows the distributions of group production estimates associated with each type of solution for the two payment conditions. The distributions of group production estimates were dichotomized between zero and +1 on the grounds that negative and zero production estimates represented failure to obtain support for the adopted work method, while positive scores represented support.

It is apparent in the results of Table 2 that the support given the adopted work method differed among the types of work methods, but in approximately the same way, in both payment conditions. F tests of the mean group production estimates for the three types of solutions were significant at the .05 and the .01 levels of confidence for the piece-rate pay and hourly pay conditions, respectively. Integrative solutions received the strongest support by far, with the highest mean production estimates and with all groups having positive support scores.

The next greatest support was given to the Old solutions. In these cases it is clear that the foreman "gave in" to the workers' arguments that they could attain higher production by retaining their present work method. The fact that the mean production estimates for these solutions were substantially less than those for the Integrative solutions suggests that even the workers may not really have believed their own arguments.

The least support was given by the workers to the New solutions, the foreman's preferred work method. The mean estimates were lowest for these solutions, and only 62 per cent of the groups had positive production-estimate scores, as compared with 72 per cent and 100 per cent of the groups which adopted Old and Integrative solutions, respectively.

Comparisons were made of the combined mean production estimates for the Old and New solutions against the estimates for the Integrative solutions in both the group piece-rate pay and the hourly pay conditions (8). The confidence intervals indicated that the Integrative solutions received significantly higher ($p < .05$) production estimates than did the Old and New solutions in the hourly pay condition, but not in the group piece-rate pay condition.

The distributions of production estimates (Table 3) for the New solutions offer the only suggestion of a difference produced by the differences in payment methods. While the difference between the group piece-rate pay and hourly pay conditions in their mean production estimates for the New solutions were not statistically significant, the hourly pay groups tended to offer less support for this type of work method. Thus, while about an equal percentage of groups in the two conditions of pay adopted the foreman's suggested work method, the workers in the hourly pay groups appear to have gone along with less enthusiasm.

The adoption of the New work method without the workers' support could be considered to constitute as much of a failure for the foreman as if the group had insisted on retaining their Old work method. Without the workers' support the New method is unlikely to improve production. Follow-

ing this line of reasoning, we can group together as "failures" Old solutions and New solutions which lack support; i.e., with group production estimates of —3 to zero. "Successes" would then be New solutions with workers' support; i.e., with group production estimates of +1 to +3. The Integrative solutions, while they are also "successes" since they are based somewhat on the time-study data and they all had some degree of worker support, should be treated separately as qualitatively different types of solutions.

TABLE 4
DISTRIBUTIONS OF FOREMAN'S SUCCESS OR FAILURE FROM GROUPS WITH DIFFERENT PAYMENT METHODS[a]

Payment method	Failure[b] N	Failure[b] %	Success[c] N	Success[c] %	Integrative N	Integrative %	Total N	Total %
Piece-rate (present data)	5	17.3	11	37.9	13	44.8	29	100.0
Hourly	26	43.3	10	16.7	24	40.0	60	100.0

[a] Chi square for this relationship is significant at the .05 level of confidence.
[b] *Failure* is defined as an Old solution, regardless of the group's production estimate, or as a New solution where the group's estimate was that production would *stay the same* or *go down*. Difference between percentages for the two payment methods is significant at the .01 level of confidence.
[c] *Success* is defined as a New solution where the group's estimate was that production would *go up*. Difference between percentages for the two payment methods is significant at the .05 level of confidence.

A comparison of the "failures" and "successes" obtained under the two payment methods is presented in Table 4. Classifying the results this way reveals that (*a*) "failure" occurred significantly more frequently ($p < .01$) in groups with the hourly pay instructions (43.3 per cent) than in groups with the piece-rate pay instructions (17.3 per cent), (*b*) "success" was more frequent among groups with the piece-rate pay instructions (37.9 per cent) than among groups with the hourly pay instructions (16.7 per cent), and (*c*) Integrative solutions were produced with equal frequency by groups with the two types of payment instructions.

D. Discussion

The problem used in this experiment dealt with the introduction of a change in work methods. The startling finding is that incentive pay, which permits the men to receive a financial reward for changing work methods, did not produce a major difference in results from hourly pay, which provides no possibility of financial reward for change.

A first reaction might be that this result is an artifact of role playing and that it would not be duplicated in a real-life situation. We must recognize,

however, that the importance of a financial incentive depends upon the individual's need. When the need is great, people will do things for money that they dislike doing. In this experiment the need for money—based on the role instructions and the artificial situation—was not great, so that job satisfaction and friendship needs presumably had an influence. Furthermore, the level of needs may be assumed to be similar among group members in the two pay conditions.

The results do demonstrate that financial considerations played some part in the outcome. Table 1 shows that a somewhat smaller proportion of the piece-rate groups refused to change their basic work patterns than did the hourly rate groups. Moreover, Table 4 shows that among groups which adopted the suggested change, the members of piece-rate groups more often supported the change. These results clearly show the differential effects of the pay methods.

When the Integrative solutions—those that involve change other than the change suggested by management—are considered, the picture is different. In the piece-rate groups 43.0 per cent reached Integrative solutions and in the hourly rate groups 40.0 per cent reached Integrative solutions. It is in this comparison that the two methods of pay failed to differentiate the groups.

Why should these two different effects occur? On the one hand, if the leader comes to the group with a solution to management's problem (to increase production), it may be accepted or rejected. A reward for acceptance can be expected to reduce the frequency of rejections. Without the reward the foremen appear to have exercised their authority to obtain a trial for the new method, with the men's clear expectation that it is not going to work. (It should be realized that in this case if the men decide the method will not work, they are in a position to see that it does not.)

On the other hand, if the problems the men face (boredom, fears, and hostility) are discussed jointly with management's problem (how to use the facts of time study to increase production), solutions that integrate and resolve the differences can be developed. Integrative solutions resolve the conflict between what the men want and what management wants and have high levels of support by the men and the foremen. Previous studies have shown that the foreman's use of the problem-solving approach leads to integrative solutions (1, 6).

Problem solving, moreover, is a satisfying activity for most people, regardless of the method of pay. Men will solve the problem of how to use certain information to improve their work pattern, provided they do not feel threatened with a loss of job security or job satisfaction. Reward is only

necessary if men are asked to accept a solution that they fear deprives them of something. Both the role-playing results and our less systematic observation of work situations support these conclusions (3).

E. Summary

The *Change of Work Procedure* role-playing case was used to examine the importance and the impact of financial incentives for overcoming resistance to change. In the present study, 60 groups role played the case with hourly pay instructions and 29 groups role played it with piece-rate pay instructions. The solutions of 50 groups with the piece-rate pay instructions obtained previously were also used for comparison.

The distributions of types of solutions—Old, New, and Integrative—obtained under the two conditions scarcely differed at all. The workers' production estimates were used, however, to classify the adoption of New solutions—the foremen's preferred solution—into "successes" and "failures" for the foreman on the basis, respectively, of whether they indicated support for the method or lack of support. When the New method "failures" were combined with the Old solutions, the foremen in the hourly pay condition were seen to have failed to obtain an accepted change in work methods significantly more frequently than did the foreman in the piece-rate pay condition.

The proportions of Integrative solutions adopted, solutions which represent creative problem solving by the groups and which were given strong support by both workers and foreman, were the same in the two pay conditions. Since previous studies have shown that these solutions occur when the group is problem oriented rather than authority oriented, the results seem to show that resistance to change can be reduced if the group members are permitted to share in the definition and the solution of problems that affect them.

The hypothesis is offered that, in discussions between foreman and workers, when the foreman uses a problem-solving approach in which his and the members' problems are solved jointly, he is more likely to obtain solutions of high quality and acceptance than when he applies extrinsic incentives to persuade the members to adopt his point of view.

References

1. Hoffman, L. R. & Maier, N. R. F. Quality and acceptance of problem solutions by members of homogeneous and heterogeneous groups. *J. Abn. & Soc. Psychol.*, 1961, **62**, 401-408.
2. Hoffman, L. R., Harburg, E., & Maier, N. R. F. Differences and disagreements as factors in creative group problem solving. *J. Abn. & Soc. Psychol.*, 1962, **64**, 206-214.

3. MAIER, N. R. F. Principles of Human Relations. New York: Wiley, 1952.
4. ———. An experimental test of the effect of training on discussion leadership. *Hum. Relat.*, 1953, **6**, 161-173.
5. ———. Psychology in Industry (2nd ed.) Boston: Houghton Mifflin, 1955.
6. MAIER, N. R. F., & HOFFMAN, L. R. Quality of first and second solutions in group problem solving. *J. Appl. Psychol.*, 1960, **44**, 278-283.
7. MAIER, N. R. F., & ZERFOSS, L. R. MRP: A technique for training large groups of supervisors and its potential use in social research. *Hum. Relat.*, 1952, **5**, 177-186.
8. SCHEFFÉ, H. The Analysis of Variance. New York: Wiley, 1959.

Department of Psychology
University of Michigan
Ann Arbor, Michigan

The Journal of Social Psychology, 1964, **64**, 379-389.

DO PARAPSYCHOLOGISTS REALLY BELIEVE IN ESP?*

Department of Psychology, University of Hawaii

WARNER R. WILSON

A. INTRODUCTION

Research in parapsychology (psi) proceeds at a vigorous rate. The 1961 *Psychological Abstracts* lists 31 articles under the heading of parapsychology. One can judge the vitality of the field from a recent article which states that about 30 to 40 trained psychologists study psi and that "our greatest need today is more manpower. It is not the conversion of doubters to believers, but the conversion of listeners to active investigators, . . . that makes up the real heart of the problem of turning parapsychology into a science" (18, p. 75). Obviously this article cannot undertake an exhaustive review of available studies. A number of challenging, recent reports, however, deserve mention. Several authors claim that extensive tests on one or a few *S*s establish psi beyond reasonable doubt (10, 14, 15, 26, 27). One article reports a probability level of 10^{-22} (21). Two studies claim that psi increases under hypnosis (8, 9). A series of studies show that psi increases when the *E*s (teachers) and *S*s (students) have mutually positive attitudes toward each other (1, 2, 3, 4, 5). One especially impressive study reports a case in which *S*s used clairvoyance to ascertain the target number, and then used psychokinesis to influence the fall of dice so that the target number turned up (19). All of the studies reported in the literature do not report positive results (e.g., 25), but most of them do.

In spite of numerous alleged demonstrations of psi, many people remain skeptical about the reality of parapsychical phenomena. A recent questionnaire study of psychological opinion indicated that only 2.6 per cent of the psychologists questioned considered ESP on established fact (28). To this writer it seems doubtful indeed that the multitude of research done would have convinced so few if it had, in fact, demonstrated psi in a convincing way.

Criticisms of the techniques of parapsychologists are, of course, legion. Numerous writers have challenged the statistical techniques used in some studies (6, 7, 25). Lack of adequate control of extraneous cues has no doubt been a factor in a number of cases. In some studies, for example, the *S*s looked

* Received in the Editorial Office on December 7, 1962. Publication delayed for technical reasons. Copyright, 1964, by The Journal Press.

at the backs of cards and tried to guess the symbols on the opposite side. Positive results occurred, and investigators claimed proof of ESP. Later it was shown that the standard ESP cards lacked complete opaqueness and that the *S*s were actually able to read them from the back (13)! Simple errors in scoring also probably account for many apparently positive results. Kaufman [cited in Gardner (11, p. 306)], for example, performed a psychokinetic experiment in which he allowed *S*s to record their own dice throws. Believers recorded above chance scores, skeptics recorded below chance scores, while careful examination of a photographic record of the throws revealed no significant deviation from chance. Also, parapsychologists tend to rationalize away negative results as due to a lag in motivation or some other factor, and to accept occasional unusual results in either a positive or negative direction as positive evidence (11, pp. 302-303; 12).

Perhaps the most pathetic dodge tried yet involves an attempt to rationalize away negative results by pointing to displacement effects (22, pp. 48-49). If the *S* does not hit the target, it may be noted that he is matching closely the next target or the previous target or some other target in the sequence. Obviously if an *S* tries to match a long series of targets, each of his attempts will match *some* target in the series. As early as 1937, Kellog (12) wrote a rather strong denunciation of psi studies. More recently, Gardner (11) has evaluated psi research and pointed out its many shortcomings. Focusing on the work of Rhine, he points out, among other things, that with very few exceptions the only experimenters who have confirmed Rhine's findings are men who shared his strong belief in psi; that hundreds of tests have been made by doubting psychologists and yielded negative results; that generally the better experiments are controlled, the less psi is found; and that Rhine has not found a single subject capable of demonstrating psi to skeptical scientists at other universities.

The marked difference in opinion regarding psi makes it a matter of importance. Either psi demonstrably exists or it does not. If it does exist, it is of sufficient interest to deserve unambiguous demonstrations by competent researchers. If, in fact, psi cannot be demonstrated, then the presence of alleged positive results in our journals reflects seriously on the methods of our science and may encourage general suspicion of the reliability of psychological and other scientific techniques. Until parapsychologists demonstrate their chosen phenomena beyond reasonable doubt, other investigators should challenge reports of positive results by reports of negative results, when these occur.

One purpose of this article is to report a replication, with modifications, of

an experiment performed by Schmeidler (23). Schmeidler's *S*s attempted to match the order of target symbols concealed in opaque envelopes. The study showed that *S*s who believed in ESP scored above chance, while skeptics scored below chance. Schmeidler claimed that these results were statistically significant. Burdock (7), however, criticized Schmeidler's statistical operations and claimed that valid statistics showed no significance. Schmeidler, undaunted by Burdock's rather scathing criticism, went on to do more research, and eventually to publish a book (24). In this book, Schmeidler reports other data that purport to lend further support to the psi position.

B. Experiment One

1. *Method*

a. Subjects. The subjects were 621 members of the General Psychology laboratory sections at the University of Hawaii. The lab instructors served as *E*s. In all, five lab instructors and 17 lab classes took part. Each lab contained approximately 40 students.

b. Materials. The target materials were simpler than those used in the Schmeidler study (23). They consisted of a column of 10 plusses and zeros. The *E*s prepared different targets for every three or four *S*s to avoid the possibility that guessing biases in the population might coincide with the order of a single target. The sequence of odd and even numbers in a table of random numbers determined the sequence of plusses and zeros. Apparently even random-number tables cannot be trusted completely (25); however, it seemed unlikely that in this case any bias would be introduced that would increase an *S*'s chances of scoring above or below chance. The respective number of plusses and zeros occurring in any column of 10 was varied randomly to avoid the increased number of extreme scores which occurs when an equal number of symbols always appears. For the sake of convenience, the *E*s prepared the different targets for each group of *S*s in duplicate. The targets were enclosed in opaque envelopes.

c. Procedure. The collection of the psi data served as part of a regular experiment in the General Psychology laboratory. The experiment was described as "an attempt to demonstrate ESP." The *S*s sat at tables in groups of three or four. Each group received two opaque envelopes containing two identical targets and two forms on which each *S* made his guess in duplicate.

These forms on which each *S* recorded his guess also included the following questionnaire:

> Do you think that, *under these conditions,* correct responses might be due to clairvoyance? Or do you think that, under these conditions, correct choices must be due to chance alone?

1. Chance alone ——
2. Might be clairvoyance ——

If the *S* checked the first item, he was classified as a skeptic; if he checked the second, he was classified as a believer. As soon as the series of guesses was made in duplicate, one copy from each *S* was placed in one of the envelopes containing one of the two identical targets, and these envelopes were put aside. The purpose of this procedure was to insure that the *S*s had no opportunity to tamper with the data. The other set of data was available for analysis in class, as part of the laboratory exercise.

In order to insure high motivation on the part of all to use whatever extrasensory powers they might have, the author offered a $10 prize to anyone who obtained a perfect score. The *E*s displayed the $10 bill on the blackboard during the experiment to maximize its appeal. In the course of the experiment, one *S* actually made a perfect score and collected the prize.

d. Analysis. According to Burdock (7), these data lend themselves to a chi-square analysis. Consequently, the *S*s were classified as believers or skeptics, and as scoring above chance, below chance, or chance. *S*s scoring exactly at chance expectancy (i.e., five correct) were discarded for the sake of computational convenience.

2. *Results*

Although the writer made an attempt to be reasonably objective in the introduction, the reader can, no doubt, see that he is skeptical rather than

TABLE 1
ESP SCORES OF BELIEVERS AND SKEPTICS
(Experiment One)

Subjects	Below chance	Above chance	Total
Skeptics	199	184	383
Believers	21	47	68
Total	220	231	451

Hypotheses	Chi square	*df*	*p*
1. The performance of the skeptics differs from that of the believers	10.27	1	$< .005$
2. The performance of the believers differs from chance	9.94	1	$< .005$
3. The performance of the skeptics differs from chance	.59	1	$> .05$
4. The performance of the total sample differs from chance	.27	1	$> .05$

optimistic about the reality of ESP. The reader, therefore, can imagine the writer's consternation when he noted that the data of the first experiment lend considerable comfort to the parapsychological position. The total sample, to be sure, did not perform significantly above chance. Likewise the skeptics as a group turned in a chance performance. The group of 96 believers, however, did perform better than chance would allow more than five times in a thousand. The believers were also significantly superior to the skeptics. Table 1 summarizes these results.

After some paranoid ruminations about the possibility that the laboratory assistants or someone else had slipped in some fake data, and after re-examining the design for methodological flaws, the writer decided that the only explanations were that some students were really clairvoyant or that the results were due to some fluke, presumably a fluke of chance. Feeling that such a suggestive findings deserved further attention, the writer undertook additional investigations with the attitude that if a certain percentage of students are clairvoyant, the significance of the findings should increase as more data were collected; if, however, psi is a myth, the earlier fluke should be offset if sufficient additional data were collected.

C. Experiment Two

1. *Method*

Experiment Two was basically similar to Experiment One, although there were some differences. The *S*s were 90 Introductory Psychology students. Introductory Psychology, as opposed to General Psychology, has no lab and consequently the data were collected during a regular classroom session. Similar targets, presented in duplicate, were used. In this case the *S*s attempted to match five different pairs of targets, presented in sequence. For the first attempt the class was divided into quarters, and each quarter concentrated on a separate pair of targets. This arrangement proved so clumsy that on the additional four trials only one pair was used and the whole class concentrated on it. As before, a $10 prize was offered to anyone obtaining a perfect score. On this occasion no one made a perfect score. Granted the nature of the hypothesis at issue, the writer decided to treat each guess as a separate case. This decision would seem to give the psi position its best chance. If the null hypothesis be true, the danger of type-one error should be equal whether each individual receives one total score or a separate score for each of the five targets. If ESP exists, however, counting each

attempt as a separate score gives the *E* a better chance of obtaining significant results because, under these conditions, the occasional high-scoring *S* can be counted more than once.

E again classified the scores as above chance, below chance, or chance. As before, the chance scores were ignored in the analysis.

Two additional investigations were conducted in conjunction with Experiment Two. One involved an analysis of the scores on trial five made by *S*s who had scored above chance three or four times on the first four trials. Seemingly these *S*s should be the ones who have clairvoyance to a high degree, and hence should score high on the fifth trial as well. If, however, only chance is at work, their scores should be only average on the fifth trial.

The second additional investigation involved calling back as many as possible of the 47 above-chance-scoring believers from the first experiment. They also were given five trials. The targets were similar to the ones used before. The *S*s were promised 10 cents for scoring above chance, 25 cents for getting eight correct on any one trial, 50 cents for getting nine correct, and $10.00 for getting 10 correct. It was possible to retest only 13 of the original 47; if anything, however, it seems more probable that the group who did return would include a predominance of people with high ability and great faith in ESP, rather than those whose previous scores were high due to chance only. Since the significance of the results of Experiment One depend primarily on the performance of this group, their performance on the retest seems especially critical to the psi position.

2. *Results*

The results of Experiment Two offer more comfort to the skeptic, and seem definitely embarrrassing to the parapsychologist.

Table 2 represents the main body of data of Experiment Two. In this case, skeptics and believers perform about equally well and both are *below* chance, though not significantly so.

In combining the main bodies of data from Experiments One and Two, the writer had to decide whether to combine all the data in a new table and compute new chi squares or to add the chi squares and double the degree of freedom (16, p. 226). It seems reasonable to follow the policy that would be most favorable to the psi case, assuming it to be valid. If tendencies to deviate from chance really exist, statistical significance should accumulate faster if *E*s add the data of similar studies rather than adding the chi squares. At the same time, flukes of chance average out much more slowly if the chi squares are added. Also McNemar seems to indicate that frequency data

TABLE 2
ESP SCORES OF BELIEVERS AND SKEPTICS
(Experiment Two)

Subjects	Below chance	Above chance	Total
Skeptics	135	114	249
Believers	41	32	73
Total	176	146	322

Hypotheses	Chi square	*df*	*p*
1. The performance of the skeptics differs from that of the believers	.09	1	> .05
2. The performance of the believers differs from chance	1.11	1	> .05
3. The performance of the skeptics differs from chance	1.77	1	> .05
4. The performance of the total sample differs from chance	2.80	1	> .05

should be added except when it cannot be legitimately combined because of age or other differences (16, p. 226). Certainly the great similarity between Experiments One and Two seeems to justify adding the data. Table 3 contains the combined data of the two experiments. It is simply an addition of Table 1 and Table 2.

As Table 3 indicates, increasing the number of observations did not increase

TABLE 3
ESP SCORES OF BELIEVERS AND SKEPTICS
(Combined data of Experiments One and Two)

Subjects	Below chance	Above chance	Total
Skeptics	334	298	632
Believers	62	79	141
Total	396	377	773

Hypotheses	Chi square	*df*	*p*
1. The performance of the skeptics differs from that of the believers	3.64	1	> .05
2. The performance of the believers differs from chance	2.04	1	> .05
3. The performance of the skeptics differs from chance	2.05	1	> .05
4. The performance of the total sample differs from chance	.47	1	> .05

the significance of the findings—as would be expected if psi is real; rather a marked shrinking of significance occurs; indeed, after the new data are added, none of the hypotheses is confirmed.

The data of Table 4 indicate the performance on the fifth trial achieved by *Ss* scoring above chance three or four times on the first four trials. Presumably this sample should indicate those having psi to the highest degree. Their performance on trial five should also reflect their superiority. Unfortunately, only 10 *Ss* qualified and of these only one was a believer. As far as this small sample is concerned, however, the data certainly show no deviations from chance. Considering the small sample size and the obvious randomness of the results, it did not seem convenient or necessary to compute chi squares based on Table 4.

TABLE 4
ESP Scores on Trial Five Earned by *Ss* Scoring Above Chance Three or Four Times During Trials One-Four

Subjects	Below chance	Above chance	Total
Skeptics	4	5	9
Believers	1	0	1
Total	5	5	10

Table 5 indicates the retest performance of the above-average-scoring *Ss* from Experiment One. This would actually seem to be the most critical group of all. They are professed believers in psi, performed well on a previous occasion, and were motivated by financial rewards. In all, 13 *Ss* took part. Each *S* tried at five targets. A total of 50 observations were above or below chance. Once again, however, the results conform admirably to the laws of chance. The overall pattern of results seems, in this writer's opinion, to give no support to the psi position.

TABLE 5
Retest Scores of Believers Who Scored Above Chance on Experiment One

Above chance	Below chance
24	26

Note: Chi square = .08, $p > .05$.

D. Discussion

This article presents several investigations. Certain facets of the data could be selected which would lend support to psi. It might be concluded that General Psychology students have ESP in the fall (when Experiment

One was conducted) but not in the spring, while Introductory Psychology students do not seem to have ESP in the spring and may or may not have it in the fall. The results taken as a whole, however, offer no support to the parapsychologist.

These results, the results of more informal investigations, the methodological shortcomings of psi research generally, and the manifest implausibility of psi convince this writer that the alleged phenomena simply do not exist. It is doubtful, however, that studies like this one will alone ever discourage parapsycholgists or prevent their claims from being accepted by the public. They will claim that these results are not telling because *E*s were not sympathetic and did not create an atmosphere conductive to psi or they will find other excuses for ignoring the results, as they are so clever at doing (17, 20).

Perhaps a more rigorous test of psi claims might be encouraged if some of the disputants on both sides would, as the saying goes, "put their money where their mouth is" and enter into some sort of sporting arrangement whereby psi advocates could win money if they could demonstrate psi, but would have to lose money if they could not. The psi challenger naturally might not want to risk any money unless he was completely satisfied that the possibility of artifacts had been ruled out. Any person wishing to take up the challenge in defense of psi would naturally want things to be as favorable to the appearance of psi as possible. For example, a single target to be judged as circle or square might not be as acceptable as a long column of circles and squares, say 99, as the longer column would give psi powers greater assurance of appearing. Also, it would seem only reasonable to have an exceptional person do the guessing. The person putting up the money would not necessarily have to do the quessing, but could call in anyone, even the most renowned ESP'er in the world. Assuming that some people do have ESP, a very excellent person, making a long series of guesses under favorable conditions, should practically never fall below chance. A skeptic, such as the present writer, might be willing to pay $100 every time the score was above chance, if he could expect to receive an appropriate amount whenever the score was below chance. Naturally it would not be very sporting from the skeptic's point of view if he received only an equal amount when the score was below chance because under these conditions the skeptic could expect only to break even. He might, therefore, insist on receiving $200 whenever the score was below chance. A person who really does not believe in psi would not want to play by such rules; however, any real believer should jump at such an opportunity to make some quick money and, at the same time, demonstrate psi in a most convincing setting. Such an arrangement is, of

course, hard to set up in reality for many reasons; however, the present writer would certainly be willing to discuss the possibility.

E. Summary

This article notes the considerable disagreement concerning the existence of parapsychical phenomenon and suggests that as long as the issue remains unsettled it will reflect on the adequacy of our methodology and may tend to discredit scientific techniques generally. The reported investigations, which duplicate—with modifications—earlier studies reporting positive results, provide a pattern which seems thoroughly negative in its overall implications.

References

1. Anderson, M. Clairvoyance and teacher-pupil attitudes in fifth and sixth grades. *J. Parapsychol.*, 1957, **21**, 1-12.
2. Anderson, M., & White, R. Teacher-pupil attitudes and clairvoyance test results. *J. Parapsychol.*, 1956, **20**, 141-157.
3. ———. A further investigation of teacher-pupil attitudes and clairvoyance test results. *J. Parapsychol.*, 1957, **21**, 81-97.
4. ———. ESP score level in relation to students' attitude toward teacher-agents acting simultaneously. *J. Parapsychol.*, 1958, **22**, 20-28.
5. ———. The relationship between changes in student attitude and ESP scoring. *J. Parapsychol.*, 1958, **22**, 167-174.
6. Brown G. The data of psychical research: A study of three hypotheses. In G. E. W. Wolstenholme & E. C. P. Millar (Eds.), *Extrasensory Perception.* Boston: Little, Brown, 1956. Pp. 73-79.
7. Burdock, E. I. A case of ESP: A critique of "Personal values and ESP scores," by Gertrude R. Schmeidler. *J. Abn. & Soc. Psychol.*, 1954, **49**, 314-315.
8. Fahlen, J. ESP card tests with and without hypnosis. *J. Parapsychol.*, 1957, **21**, 174-185.
9. Fahlen, J., & Cadoret, R. J. ESP card tests of college students with and without hypnosis. *J. Parapsychol.*, 1958, **22**, 125-136.
10. Fisk, G. W., & West, D. J. Dice-casting experiments with a single subject. *J. Soc. & Psychol. Res.* (Lund), 1958, **39**, 277-287.
11. Gardner, M. Fads and fallacies in the name of science. New York: Dover, 1957.
12. Kellog, C. E. The problems of matching and sampling in the study of extrasensory perception. *J. Abn. & Soc. Psychol.*, 1937, **32**, 462-479.
13. Kennedy, J. L. A methodological review of extrasensory perception. *Psychol. Bull.*, 1939, **36**, 59-103.
14. Langdon-Davies, J. Extrasensory perception among present European populations. In G. E. W. Wolstenholme & E. C. P. Millar (Eds.), *Extrasensory Perception.* Boston: Little, Brown, 1956. Pp. 111-119.
15. Langdon-Davies, J., Soal, S. G., & Bateman, F. ESP tests with a Spanish girl. *J. Parapsychol.*, 1955, **19**, 155-163.
16. McNemar, Q. Psychological Statistics. New York: Wiley, 1955.
17. Murphy, G. Randomized targets in parapsychology. *Science,* 1954, **120**, 1041.
18. ———. Trends in the study of extrasensory perception. *Amer. Psychologist,* 1958, **13**, 69-76.

19. Osis, K. A test of the relationship between ESP and PK. *J. Parapsychol.*, 1953, **17**, 298-309.
20. Rhine, J. B. Value of a "negative" experiment in extrasensory perception. *Science*, 1955, **121**, 808.
21. Rhine, J. B., & Pratt, J. G. A review of the Prince-Pratt distance series of ESP tests. *J. Parapsychol.*, 1954, **18**, 165-177.
22. ———. Parapsychology, Frontier Science of the Minds: A Survey of the Field, the Methods, and the Facts of ESP and PK Research. Springfield, Ill.: Thomas, 1957.
23. Schmeidler, G. R. Personal values and ESP scores. *J. Abn. & Soc. Psychol.*, 1952, **47**, 757-776.
24. Schmeidler, G. R., & McConnell, R. A. ESP and Personality Characteristics. New Haven: Yale Univ. Press, 1958.
25. Smith, K. G. & Canon, H. J. A methodological refinement in the study of ESP and negative findings. *Science*, 1954, **120**, 148-149.
26. Soal, S. G. Some statistical aspects of ESP. In G. E. W. Wolstenholme & E. C. P. Millar (Eds.), *Extrasensory Perception*. Boston: Little, Brown, 1956. Pp. 80-90.
27. Soal, S. G., & Bateman, F. Modern Experiments in Telepathy. New Haven: Yale Univ. Press, 1954.
28. Warner, L. A second survey of psychological opinion on ESP. *J. Parapsychol.*, 1952, **16**, 284-295.

Department of Psychology
University of Hawaii
Honolulu 14, Hawaii

The Journal of Social Psychology, 1964, **64**, 391-392.

BOOKS RECENTLY RECEIVED

ABRAMS, A., GARNER, H. H., & TOMAN, J. E. P. Unfinished Tasks in the Behavioral Sciences. Baltimore: Williams & Wilkins, 1963. Pp. 264.

BISCHOF, L. J. Interpreting Personality Theories. New York: Harper & Row, 1964. Pp. 694.

BLOOM, B. S. Stability and Change in Human Characteristics. New York: Wiley, 1964. Pp. 237.

BROWN, E. L. Newer Dimensions of Patient Care. New York: Russell Sage Foundation, 1964. Pp. 163.

BURGESS, E. W., & BOGUE, D. J., *Eds.* Contributions to Urban Sociology. Chicago: Univ. Chicago Press, 1964. Pp. 673.

COFER, C. N., & APPLEY, M. H. Motivation: Theory and Research. New York: Wiley, 1964. Pp. 958.

COOMBS, C. H. A Theory of Data. New York: Wiley, 1964. Pp. 585.

CROZIER, M. The Bureaucratic Phenomenon. Chicago: Univ. Chicago Press, 1964. Pp. 320.

DAVITZ, J. R. The Communication of Emotional Meaning. New York: McGraw-Hill, 1964. Pp. 214.

EDWARDS, A. L. Expected Values of Discrete Random Variables and Elementary Statistics. New York: Wiley, 1964. Pp. 146.

FISK, G., *Ed.* The Frontiers of Management Psychology. New York: Harper & Row, 1964. Pp. 301.

FOX, B. H., & FOX, J. H. Alcohol and Traffic Safety. Bethesda, Md.: Nat. Inst. of Health, 1963. Pp. 258.

GOLDBRUNNER, J. Individuation: A Study of the Depth Psychology of Carl Gustav Jung. Notre Dame, Ind.: Univ. Notre Dame Press, 1964. Pp. 204.

GROSSACK, M. M., *Ed.* Understanding Consumer Behavior. Boston: Christopher, 1964. Pp. 325.

HARNACK, R. V., & FEST, T. B. Group Discussion: Theory and Technique. New York: Appleton-Century-Crofts, 1964. Pp. 456.

HARPER, R. J. C., ANDERSON, C. C., CHRISTENSEN, G. M., & HUNKA, S. M. The Cognitive Processes: Readings. Englewood Cliffs, N. J.: Prentice-Hall, 1964. Pp. 717.

HARTMANN, H. Essays on Ego Psychology. New York: Internat. Univ. Press, 1964. Pp. 492.

HUTSCHNECKER, A. A. The Will to Happiness. Englewood Cliffs, N. J.: Prentice-Hall, 1964. Pp. 174.

JALOTA, S. A Students' Manual of Experiments in Psychology. New York: Taplinger, 1964. Pp. 157.

JOHN, A. L., LEITE-RIBEIRO, M. O., & BUCKLE, D. The Nurse in Mental Health Practice. Geneva: World Health Organization, 1963. Pp. 212.

KAHLER, E. The Meaning of History. New York: George Braziller, 1964. Pp. 224.

LEAVITT, H. J. Managerial Psychology. Chicago: Univ. Chicago Press, 1964. Pp. 437.

LEAVITT, H. J., & PONDY, L. R., *Eds.* Readings in Managerial Psychology. Chicago: Univ. Chicago Press, 1964. Pp. 641.

LEVINSON, H. Emotional Health in the World of Work. New York: Harper & Row, 1964. Pp. 300.

MACHOTKA, O. The Unconscious in Social Relations. New York: Philosophical Library, 1964. Pp. 321.

MANNHEIM, K. Systematic Sociology. New York: Grove, 1964. Pp. 169.

McCARTHY, R. G., *Ed.* Alcohol Education for Classroom and Community. New York: McGraw-Hill, 1964. Pp. 308.

MILLER, G. A. Mathematics and Psychology. New York: Wiley, 1964. Pp. 295.

MITCHELL, C., WATSON, B., & LIPSTREU, O. Simplified Statistics. Boulder, Colorado: Pruett, 1963. Pp. 119.

NAHIKIAN, H. M. A Modern Algebra for Biologists. Chicago: Univ. Chicago Press, 1964. Pp. 236.

PAGET, R. Human Speech. New York: Humanities Press, 1964. Pp. 360.

PORTER, E. H. Manpower Development. New York: Harper & Row, 1964. Pp. 138.
PUTNEY, S., & PUTNEY, G. J. Normal Neurosis. New York: Harper & Row, 1964. Pp. 210.
RAND, P. Distortion and Selectivity. New York: Humanities Press, 1964. Pp. 272.
RIMLAND, B. Infantile Autism. New York: Appleton-Century-Crofts, 1964. Pp. 282.
RITCHIE, O. W., & KELLER, M. R. Sociology of Childhood. New York: Appleton-Century-Crofts, 1964. Pp. 333.
RIVERS, W. M. The Psychologist and the Foreign-Language Teacher. Chicago: Univ. Chicago Press, 1964. Pp. 212.
ROTTTER, J. B. Clinical Psychology. Englewood Cliffs, N. J.: Prentice-Hall, 1964. Pp. 112.
SCHALLER, G. B. The Year of the Gorilla. Chicago: Univ. Chicago Press, 1964. Pp. 260.
SHERIF, M., & SHERIF, C. W. Reference Groups: Exploration into Conformity and Deviation of Adolescents. New York: Harper & Row, 1964. Pp. 370.
SHUBIK, M., *Ed.* Game Theory and Related Approaches to Social Behavior. New York: Wiley, 1964. Pp. 390.
STEKEL, W. Sadism and Masochism. New York: Grove Press, 1964. Pp. 473.
TODD, F. Teaching About Alcohol. New York: McGraw-Hill, 1964. Pp. 230.
WANN, T. W., *Ed.* Behaviorism and Phenomenology. Chicago: Univ. Chicago Press, 1964. Pp. 190.
WHITE, R. W. The Abnormal Personality. New York: Ronald Press, 1964. Pp. 619.
WILLIAMS, J. K. The Wisdom of Your Subconscious Mind. Englewood Cliffs, N. J.: Prentice-Hall, 1964. Pp. 190.
WORCHEL, P., & BYRNE, D., *Eds.* Personality Change. New York: Wiley, 1964. Pp. 616.
YOUNG, L. Wednesday's Children. New York: McGraw-Hill, 1964. Pp. 195.